Teachers' perceptions on learner-centred approach: a case of selected secondary schools in Namibia

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I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Abstract

Namibia is one of the countries with distinct historical education systems that shifted from the traditional teacher-centred approach to learner-centred approach to improve learning outcomes. Despite for the call upon secondary school teachers in Namibia to adopt the learner-centred approach, the pass rates for Grade 10 Junior Secondary Certificate (JSC) in Namibia remains very low with about 50% of the Grade 10 JSC learners failing to make it for senior secondary level. Therefore, this study sought to explore science teachers' knowledge, practice and perception of learner-centred approach. This study employed a pragmatic approach using an explanatory sequential mixed-methods design to collect quantitative data first and then explaining the quantitative results with in-depth qualitative data. The structured questionnaire, interview protocol and observation protocol were used as research instruments to collect data from a sample of 20 participants. The quantitative data analysis was used for the data collected by the questionnaire while qualitative data analysis was used for the data collected by interview and the observation protocols. The results showed an understanding of learner-centred approach and most teachers use a mixed approach to teaching that incorporates both learner-centred approach and teacher-centred approach. Furthermore, results showed that teachers view learner-centred approach as effective but its effectiveness is reduced by poor participation of learners, large class sizes and inadequate instructional materials. Following the results, it was recommended that the Ministry of Education and education policy makers must consider strategies to reduce challenges to the effectiveness of learner-centred approach to improve learner performance.

Key Terms:

Achievement; implementing; Knowledge; Learner-centred approach; Learning outcomes; Perceptions; Science; Performance; Teachers; Teacher-centred approach

Dedication

I dedicate this thesis to my late parents Ishamel Ndapuka Shatumbu and Laina Ndahambelela Hendjabi as well as my daughter Eunice Ndapewa Ndeiweda.

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CHAPTER ONE
INTRODUCTION

1.1 Introducing the study

Teachers' perception on learning approach represents a very important topic of today's world. All teachers bring to their practice *personal theories* of teaching and learning. These theories are unconscious, but guide the teachers in their decisions about planning and classroom practices. Researchers on teachers' perception call upon teacher education research to explore the association between classroom practices of teachers and their personal theories regarding teaching and learning. Fang (1996), for example, argues that teachers' perception about their roles and values they hold help shape their pedagogy. Therefore, the ultimate goal in the business of schools and other centres of learning is the learning outcomes explained in terms of an understanding of what is learning.

Many researchers have tried to define learning in education. However, the learning definition adopted in this study is inspired by the work of Skinner (2011) where behaviourism is the central point of learning. Behaviourism equates learning with behaviours that are observed, measured and reinforced (Danley, James, Mims & Simms, 2014). Using the behaviourists perspective, Huitt and Hummel (2006) defined learning as a process by which a relatively stable modification in stimulus–response relations is developed as a consequence of functional environmental interaction via the senses. Furthermore, learning is defined as the relatively permanent change in behaviour brought about as a result of experience or practice (Rachlin, 1995; Cunia, 2005; Martinez, 2007; Danley, et al., 2014; Tadesse & Gidey, 2015). Jameson et al. (2008) further described learning differently as a systematic process in which an individual experiences permanent, lasting changes in knowledge, behaviours, or ways of processing the world. It follows that the learning outcomes are the changes in knowledge and behaviours on an individual. Adam (2004) contends that a clear focus on outcomes for young people is essential, with lesson and programme planning that helps learners achieve fully. Lesson and programme planning that

helps learners in this case is related to the role of the teacher in the learning process and achievement of learning outcomes. This places the teacher and teachers' perception central to the learning process.

Debates in education pedagogy has been characterised by looking at the best methods of facilitating learning to achieve the intended learning outcomes hence the development and application of learning and teaching approaches. The most popular approaches are the polarised teacher-centred approach and learner-centred approach. The adoption of one of the two polarised approaches has been subject to an ongoing debate. For Namibia, as one of the countries with distinct historical education systems; has shifted from the traditional teacher-centred approach to learner-centred approach. The Namibia National Curriculum for Basic Education (2010) stipulates that teaching and learning should a learner-centred approach (NIED, 2010). This calls upon secondary school teachers in Namibia to adopt and apply the learner-centred approach. Focusing at the Junior Secondary Certificate (JSC), i.e. grades 8-10, this study to explores science teachers' perceptions on learner-centred approach for curriculum delivery.

1.2 Background to the Adoption of Learner-Centred Approach in Namibia

The right to education in Namibia is constitutional and statutory guided by the Namibian Constitution of 1990 and the Education Act (Act no. 16 of 2001). According to the Namibian Constitution, education is a right for all persons, and it is the responsibility of the government to provide education (Republic of Namibia, 1990). The Education Act defines Basic Education as Grades 1-12, and as part of the provision demanded by the Constitution and further states that free basic education is extended to Grade 12, but is not compulsory beyond the limits set in the Constitution (Republic of Namibia, 2001). The adoption and implementation of the learner-centred approach to teaching and learning in Namibia is a fulfilment of the National Goals of equity (fairness) and democracy (participation) as advocated in the National Development Plans (NDP1, NDP 2. NDP3 and NDP4). Furthermore, the adoption and implementation of the learner-centred approach to teaching and learning is an educational reform.

Education reform with regard to pedagogical approaches has been described as transformational pedagogy that attempts to shift from the traditional forms of pedagogy to modern forms of pedagogy perceived to have positive impacts in the teaching and learning processes. The study by Chan in 2008 on "Pedagogical Transformation and Knowledge-Building for the Chinese Learner" found that pedagogical approaches developed a transformed pedagogy integrating Chinese and Western approaches to scaffold student learning (Chan, 2008). Furthermore, Chan (2008) found that Chinese learners and Chinese teachers employed approaches that transcended the polarised categorisation of surface vs. deep, student-centred vs. teacher-centred, and didactic vs. constructivist approaches in the Chinese classroom. Generally, there is need to shift the focus from teachers being responsible for teaching and students being responsible for learning to the teacher being responsible for understanding children's individual learning needs and supporting them (Guldbaek, et al., 2011).

With regard to education transformation and reform in Namibia, the development of educational curriculum in Namibia has been guided by the Constitution, the Education Act and Vision 2030 principles that ensures continuity of the foundation principles of the Namibian education system described in Toward Education for All: A Development Brief, in 1993 (Republic of Namibia, 2010). The Namibia Vision 2030 sees Namibia as developing from a literate society to a knowledge-based society, where knowledge is constantly being acquired and renewed, and is being used for innovation to improve the quality of life (Republic of Namibia, 2010).

The National Curriculum for Basic Education stipulates that a knowledge-based society as advocated by the Vision 2030 require a learner-centred approach to teaching and learning (NIED, 2010). According to the National Curriculum for Basic Education 2010, the point of departure is always what the learners already know and can do, then acquiring new knowledge through ways of working which are relevant and meaningful for them, and learning how to apply their knowledge creatively and innovatively.

Although consolidated in recent publications that include the Namibian Vision 2030 and the National Curriculum for Basic Education 2010, a learner-centred curriculum was introduced in Namibia soon after Independence from South Africa in 1990 and it was considered an effective remedy to the unwanted and hated teacher-centred practices used within the previous apartheid system.

The characteristics of learner-centred approach in Namibia are well documented to guide teachers and according to NIED (1999), they include:

- use of the learners' existing knowledge, skills, interests and understanding, as a starting point derived from previous experience in and out of school;
- Make use of the natural curiosity and eagerness of all young people to learn to investigate and to make sense of a widening world that must be nourished and encouraged by challenging and meaningful tasks;
- Appreciate and consider the learners' perspective needs in the work of the school;
- Empower learners to think and take responsibility not only for their own, but for another's learning and total development;
- Involve learners as partners in education, rather than receivers of educational growth.

1.3 Rationale

The rationale for this research study draws largely on personal and contextual-based evidence of education reform with regard to pedagogical approaches. Despite the need and the actual education transformation and reform after 1990 and thereafter in the subsequent years, the Namibian National Plan of Action 2002 – 2015 for "Education for All" (EFA) states that the Namibian education system is characterised by high failure rates among other major problems facing the education system (Republic of Namibia, 2002). Not only this, but also the pedagogical reforms and transition from teacher-centred approach to learner-centred approach among educators (teachers) appear to be a challenge (Ninne, 2011). According to Ninne (2011), the need for educational

transformation was realised in Namibia soon after independence in 1990 hence the emphasis on the right to education as advocated by the Namibian Constitution and the Namibian Education Policies.

Article 20(1) of the Namibian Constitution states that, “All persons shall have the right to education” (Republic of Namibia, 1990). In addition to this constitutional right for all Namibians, “*the Education For All (EFA) National Plan of Action, 2002 – 2015”* states that education reform was a major agenda of the Namibian education system in 1990 hence the curricula was developed, together with new learner-centred teaching methods, continuous assessment and semi-automatic promotion (Republic of Namibia, 2002). Conversely, the constitutional requirements of education as a right as established in the Namibian Constitution has resulted in a range of educational laws and policies to support the constitution, to promote the development of “diversified, competent and highly productive human resources” and to build a “knowledge-based” society (Ninne, 2011). The educational laws and policies associated with educational reform in Namibia are outlined below:

- Education for All National Plan of Action 2002-2015 (2002) - an affirmation of the commitment of the people of Namibia to the four key broad goals of the Ministry of Basic Education, Sport and Culture, namely, *access, equity, quality* and *democracy* (Republic of Namibia, 2002).
- Namibian Vision 2030: Policy Framework for Long-term National Development (2004) – The Namibian Government’s long-term plan to transform Namibia into an industrialised society through literate, skilled, articulate, innovative, informed and proactive people (Republic of Namibia, 2004).
- Education and Training Sector Improvement Programme (ETSIP, 2007) - A fifteen-year strategic plan designed to improve quality and efficiency in the education sector, from pre-primary to tertiary levels (Ministry of education, 2007).
- Third National Development Plan 2007/8-20011/12 (2008) – Four year national plan with the sub-sector education aimed at improving the quality and relevance of the education system, ensuring equality of educational

opportunity and devising means to improve learner performance in Grades 10 and 12 (Republic of Namibia, 2008).

- National Curriculum for Basic Education (2010) – provides a platform for achieving a knowledge-based society (Vision 2030) through a learner-centred approach to teaching and learning (NIED, 2010).

In essence all the above reforms and policies aim at promoting a knowledge-based society, and calling upon all stakeholders including the teachers to develop effective approaches and methods to teaching and learning as the world is experiencing rapid changes in human needs and technology. This will be reflected by the improved performance of learners and their learning outcomes. Guldbaek, Vinkel and Broens (2011), who contend that the world has been changing so fast that educational systems have not had time to keep pace and therefore there is need to rethink, renew and modernise schools as well as develop a new educational experience for children.

The value of exploring teachers' perceptions in relation to their practice is strongly supported in the literature. Some researchers for instance, Gess-Newsome and Lederman (1999), report evidence of mismatch between particular perceptions held by teachers of science and their classroom practices. By means of a study that constitutes data on teachers' classroom practices and their teaching perceptions, occurrences of this disconnection can further be explored. I consider an awareness of the link between teachers' perceptions and classroom practice as an important component for personal and professional development.

It is on these bases that my study provides a significant contribution in terms of its scope. The areas focused in this study: teachers' perceptions and classroom practice are linked to provide insight into their complex interplay. Furthermore, this study offers a unique range of experiences in terms of the teachers participating in the study. Not only do these teachers represent different teaching grades and experiences, they, furthermore, represent diverse linguistic backgrounds.

1.4 Context of the study

Namibia is divided into fourteen political administrative regions and the regions also form the fourteen educational directorate regions. Omaheke is one of the 14 Regional Education Directorate situated east of the country where Namibia boarders with Botswana. The location of Omaheke region is shown on the map on Figure 1.1 below.

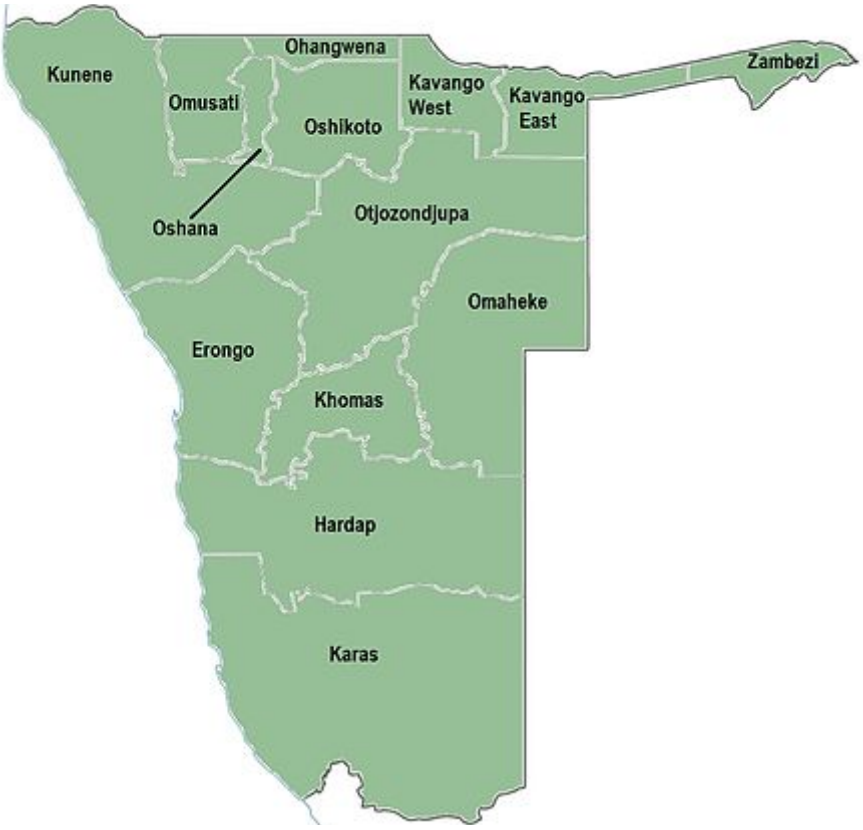

Figure 1.1: The fourteen regions of Namibia (Source: Wikiwand, 2018)

Economically, Namibia is ranked as a middle-income country but being one of the most inequitable countries in the world with a Gini coefficient of 0.6 and a national Human Poverty Index of 33% (Ninne, 2011). According to Ninne (2011), the inequitable distribution of wealth and income mirrors inequities in education in Namibia. Before independence in 1990, the education system in Namibia, then South West Africa has been characterised by disparities and acute racial, ethnic, cultural, social, political and economic discriminations (Niikondo, 2008). This was associated with the apartheid education system where the black majority were to follow the Bantu education system. The Bantu

educational system was an institutionalised system for under-developing black people through the education system that exercised social control over the political and economic aspirations of black people by reinforcing social notions of superiority and inferiority between black and white (Nyoka, Du Plooy & Henkeman, 2014).

The Bantu educational system was teacher-centred, with teachers viewed as the main source of knowledge. The teacher-centred approach used by the Bantu educational system which viewed learners as relatively passive recipients of knowledge and the methodology was characterised by the predominant use of traditional methods of teaching such as formal lectures, provision of structured material during lectures (De la Sablonnie`re, Taylor, &Sadykova, 2009).

After independence that is after 1990, the Ministry of Education and Culture developed and designed a new curriculum that would reflect the needs of the learners (Adejoke, 2007) by introducing the learner-centred approach to learning that affords learners to take the primary responsibility of their own learning. The philosophy behind learner-centred approach is based on the assumption that preparation for a knowledge-based society requires a learner-centred approach to teaching and learning where the point of departure is always what the learners already know and can do, then acquiring new knowledge through ways of working which are relevant and meaningful for them (Ministry of Education, 2009).

Despite the efforts, the education system in Namibia is still confronted with many problems that were inherited from the pre-independence period. Lack of infrastructure, insufficient funding and lack of trained personnel, high failure rates, are among the major problems facing the education system. The pass rates for Grade 10 Junior Secondary Certificate (JSC) in Namibia are shown in Table 1.1 on the next page.

Table 1.1 Grade 10 pass rates as from 2013to 2017

Year	**Pass rate**
2013	51.5%
2014	52.1%
2015	54.7%
2016	54.1%
2017	54.0%

Source: *Directorate of National Examinations and Assessment (DNEA), 2018*

The pass rates show that there is no significant improvement for the five-year period shown. Furthermore, the results show that nearly 50% (45 – 48%) of the Grade 10 Junior Secondary Certificate learners do not make it for senior secondary level, a grave situation of bottlenecking and continuous addition of failures in the streets. Then the big question follows; *is it the inherited colonial legacy still haunting the Namibian nation 26 years after independence or is it the failure to strategically adopt and implement the learner-centred approach to learning that can be attributed to high failure rate among Grade 10 Junior Secondary Certificate learners* in secondary schools in Namibia?"*?"*

Based on the above-mentioned assumption and the unanswered questions, this study seeks to explore how teachers understand the principles of learner-centred education, challenges they face and perception that they may have, in implementing learner-centred approach practices.

1.5 Research Problem

In recent years, the world has witnessed a paradigm shift in the pedagogy practices with more focus and emphasis on learner-centred approaches. Unlike the traditional teacher-centred approach, this new teaching approach put the learner at the centre of the learning process (Norman & Spohrer, 1996, Mykrä, 2015). Consequently, many countries including Namibia, are embracing a paradigm shift from a traditional teacher-centred to learner-centred approach. In Namibia, recent policy initiatives have focused on the need to improve learning

outcomes that will be reflected by improved performance of learners both in class and at national level as reflected by the national examination results statistics. However, this is not happening, as learners' performance in science is a major concern. In this study, performance is viewed as learners' ability to achieve levels of competence and corresponding achievement of educational benchmark levels that enable them to be promoted to the next grade as prescribed by the national curriculum. An analysis of national Grade 10 performance reflected in Table 1.1 show an average of 53% for the 5 year period, 2013 to 2017 indicating that about 47% fail to be promoted to the next senior secondary grade 11. With regard to Omaheke Educational Region in Namibia, the Grade 10 pass rate is far below national average. For instance, the only 37% of the Grade 10 learners who sat the Junior Secondary Certificate Examination in 2013, only 37% passed while the national average was 51.5% (UNICEF & MoE, 2013). Many factors can attributed to the failure rate of Grade 10 learners including pedagogical approaches adopted and applied.

Both the 2010 National Curriculum for Basic Education and the 2007 Education and Training Sector Improvement Programme (ETSIP) advocate the use of learner-centred approach in teaching science as opposed to teacher-centred approach. However, the problem with the current pedagogy is that it does not reflect a change on teachers' teaching approach. The argument is supported by Niikondo's (2008) study that found that despite the recent introduction of learner-centred educational practices and the perceived positive impact on learner's motivation, achievement, learning and understanding, there is still a lack of substantial learner-centred change in classrooms.

Many teachers in Namibia hold the view that teaching is a process of transmitting knowledge, which is in contrast with the learner-centred education approach. For instance, a study by Amakali on "Primary teachers' perceptions and implementation of learner-centred education in the Namibian primary classroom" revealed that primary school teachers seem to have some knowledge of learner-centred principles as outlined in the national curriculum, but their classroom practice reveals a different picture where prior knowledge was confused with previous content learnt and their classrooms were

dominated by teacher talk (Amakali, 2017). This suggests that, teachers enter education classrooms with a unique set of beliefs about teaching and learning based on prior experience in more teacher-oriented classrooms; it becomes a very difficult task to convince teachers of the value of learner-centred pedagogy (Kasanda, 2008). Furthermore, there is continuous resistance to learner-centred pedagogy since teachers feel themselves more comfortable with the traditional teacher-centred approach to instruction (Kasanda, 2008).

Against this background, it was found necessary to explore science teachers' knowledge and practice of learner-centred approach.

1.6 Objectives of the Study

The following are the research objectives for the study

- To explore Junior Secondary School teachers' views on the implementation of learner-centred approach for teaching science.
- To identify teaching and learning approaches used by Junior Secondary School teachers of science.
- To explore reasons for their choices on science teaching approaches.

1.7 Research Questions

This study is guided by the following research questions:

- What are the Junior Secondary School teachers' views on the implementation of learner-centred approach for teaching science?
- How do Junior Secondary School teachers of science approach their teaching?
- Why do Junior Secondary School teachers approach their science teaching the way they do?

1.8 Significance of the study

The introduction and implementation of learner-centred approach in Namibia is an educational reform associated with doing away with traditional approaches to teaching and learning for improvement of educational performance. Despite the perceived advantages and merits of the learner-centred approach, performance of learners in schools in Namibia is still below expected standards. It is therefore that the purpose of this study to explore teachers' perception of learner-centred approach from selected secondary schools in Namibia.

The outcomes of this study may help to identify gaps between the expected performance of learners and the actual performance of learners in schools in Namibia in terms of teaching and learning approaches and methodologies. The outcomes enable policy makers in the Ministry of Education and other ministries to identify challenges and solutions to mitigate challenges associated with the implementation of the learner-centred approach.

Apart from the policy makers in the Ministry of Education and other ministries, various stakeholders are beneficiaries to the outcomes of this study. Foremost, the learners in secondary schools and may benefit through improved performance if challenges of identify gaps between the expected and the actual in terms of teaching and learning approaches and methodologies are addressed and recommendations are implemented. Teachers as facilitators of the learning process may be able to have a clear understanding of the benefits of learner-centred approach hence resistance can be minimised for the benefit of the teachers and the learners.

Finally, students perusing their studies in education may make use of the outcomes to explore and identify needs for further studies of the same or related topics.

1.9 Research Design and Methodology

This study adopted a mixed approach research design. According to Creswell (2012), a mixed research design entails collecting and analysing both quantitative and qualitative forms of data. The quantitative approach allows the data collected through surveys to be quantified and statistical analysis to be conducted (Leedy & Ormrod, 2010). With qualitative approach, qualitative researchers whose philosophy is based on phenomenology are concerned with understanding human behaviour from the perspective of people involved (Welmann, Kruger and Mitchell, 2005).

The research instrument for the study comprises of both closed-ended questions and open-ended questions. The closed-ended questions allow participants to objectively respond to questions within the scope of what the researcher is looking for while open-ended questions allow the teachers to give their opinions and perceptions freely on learner-centred approachto teaching and learning.

In justifying the mixed approach, Creswell (2012) asserted that researchers, who want to do the best research, collect or analyse both numerical data and narrative data. The same author holds that, a qualitative design elicits meaning, experience or perception from the participants' point of view, at the expense of the researcher's subjective views (Creswell, 2012). The adoption of a mixed method entails that, the researcher employs deductive and inductive analysis in the same research study.

A case study was adopted for the research design and this involved organising data and looking at the object studied as a whole (Saunders, Lewis & Thornhill, 2012). The main reason for using the case study is that it has the potential to generate rich subjective data that can lead to the development of a theory. It provides baseline information on the impact of the teachers' perception of learner-centred approach on teaching and learning process in Namibia and the overall performance of learners.

1.10 Delimitations of the Study

Namibia is a large country with 14 Educational Regions. This study focused on one region which is Omaheke region to explore teachers' perception on learner-centred approach in selected secondary schools in the region. Furthermore, not all secondary schools were covered in the region, but a few secondary schools to make the study more specific.

1.11 Definition of Terms

It is important to clarify key terms and concepts, as they are understood in this study.

Curricula-a set of courses of study, or a group of related courses and their content offered at school (Maldives Ministry of Education, 2010).

Didactics - a teacher-centred approach to learning based on the assumption that the teacher is the primary agent in learning who impart the results of experience, personal study and reflection (Austin, 2013).

Facilitative style of teaching – a teaching style that emphasizes the personal nature of teacher-learner interactions where the teacher guides the learners by asking questions, exploring options, suggesting alternatives and encouraging them to develop criteria to make informed choices (Tubbs, 2014).

Learner-centred approach - also known as child-centred learning is a learning that mainly majors on the needs of the learners other than those of other involved parties such as administrators and teachers in the education system (Al-Zu'be, 2013).

Omaheke Education Region – One of the 14 education administrative regions of Namibia situated on the eastern part of the country that boarders with Botswana.

Pedagogy - an act of teaching together with what one needs to know, and the skills one needs to command in order to make and justify the many different kinds of decisions of which teaching is constituted (Cogill, 2008).

Socratic style of teaching – an inductive problem-centred or problem-based teaching approach that assumes that the learner is the primary agent in learning (Stone et al, 2014).

Teacher-centred approach to learning – a learning approach whereby learners passively receive information and the emphasis is on acquisition of knowledge, and teacher's role is to be primary information giver and primary evaluator (Ahmed, 2013).

Teacher-oriented classrooms - classrooms where the teacher exerts control over the students/learners (Garrett, 2008).

1.12 Division of Chapters

The first chapter has provided an introduction and background to the study, the problem statement and aims and the definition of concepts, as well as an overview of the research design and methodology.

Chapter Two presents a review of the literature used as well as the theoretical framework underpinning the study.

Chapter Three presents the research methodology and outlines the sampling procedure, data collection and data analysis methods, research rigour and research ethics.

Chapter Four presents the analysis of the data and the results of the study. Discussions of the major findings of the study are presented in Chapter Five.

The summary, implications and conclusions of the study are presented in Chapter Six.

1.13 Summary

The chapter has provided an overview of the research study on science teachers' perception of learner-centred approach in Omaheke region of Namibia. This chapter introduced the study by initially outlining the purpose of the study before describing the context of the study. The context of the study is based on the educational reform in Namibia from colonial education system associated with the teacher-centred approach of learning to the post-independence learner-centred approach of learning.

Following the context of the study is the problem statement where the problem identified is lack of substantial learner-centred change in science classrooms and poor performance of learners. Due to the problem at hand, the objectives for the study and the research questions that guide the study have been outlined. Finally, the chapter described and stated the significance of the study and delimitations of the study.

The next chapter reviews the literature related to principles of learner-centred education, challenges associated and perceptions of teachers on learner-centred education.

CHAPTER TWO
LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter presents the literature review of the study on teachers' science perceptions of learner-centred approach. The literature reviewed in this chapter covers the theoretical and empirical perspectives of teaching and learning with a focus on learner-centred approach in terms of how it has been adopted and applied in secondary schools. Furthermore, the literature covers the science teachers' views about the implementation of learner-centred approach and the challenges associated. The structure of this chapter is guided by the objectives of the study. The first section of this chapter focuses on the concept of teaching and learning.

2.2 Teaching and Learning

According to Wilson and Peterson (2006), learning is a social phenomenon that involves the process of active engagement. The concept of active engagement is supported by Amakugo (2005) who states that an individual learn well when he/she is actively involved in the learning process. Wilson and Peterson (2006) further elaborated the concept of learning by stating that it includes three contemporary ideas that are processes of *active construction, social phenomenon* as well as *an individual experience* of which learner differences are resources, not obstacles.

While learning has been described as a social phenomenon involving the process of active engagement and individual experience, teaching is another phenomenon which has evolved over time. Traditionally, teaching used to be known as the art of information-delivering with the teacher doing most of the work (Wilson & Peterson, 2006). This is associated with the teacher-centred approach to teaching and learning that puts the teacher on an authoritative and active position while the learner takes the passive side of learning being a passive recipient of information and knowledge.

Teaching and learning have evolved over time in an attempt to find better methods of teaching and learning. Wilson and Peterson (2006) further states that contemporary teaching is a complex, intellectual work with varied teacher roles, from information deliverer to architect of educative experiences involving structuring classrooms for individual and shared work.

The teaching methods have to encourage involvement and the participation of learners (Ministry of Basic Education, 2006). The Ministry of Education stipulates that teachers must structure lessons appropriately and there should be variation in the organisation of their tasks. This implies that it is advisable that having earlier taken the peculiar needs of the learners into account, the teacher will design courses to squarely address such needs.

Holmes (2010) explained that teaching helps people get excited in a subject area that they have bigger ideas. According to Holmes, the role of teachers is to facilitate and help the learners get excited about learning. He emphasised that teaching and learning should occur simultaneously in a way that the learners will enjoy both. According to the Ministry of Education and Culture (1990), learner-centred education is comprised of the following aspects in the classroom:

- The learners as individuals should be accepted and acknowledged, with learning styles adapted to their individual needs.
- The learners' knowledge and experiences both at home and school must be accepted and built upon as a good starting point for knowledge.
- The learners should be involved in collaborative, interactive, cooperative efforts, so that they will be able to share their learning experiences with others.

This calls upon teachers of science to be facilitators of the learning process; hence create conducive environments for critical thinking and independent learning on the side of the learner.

Additionally, science teachers are required to recognising that the prior learning and life experiences of learners are valuable foundations for constructing new knowledge and skill sets.

2.3 Pedagogy and Learning

There exist several definitions of pedagogy in the literature. For instance, Cogill (2008) defines pedagogy as the act of teaching together with what one needs to know, and the skills one needs to command in order to make and justify the many different kinds of decisions of which teaching is constituted. This definition is focused on teaching although it incorporates the aspects of learning. To Boundless (2016), pedagogy is the science and art of education, specifically instructional theory whereby the instructor develops conceptual knowledge and manages the content of learning activities in pedagogical settings. This is typical teacher-centred approach to learning and teaching. Both definitions applies to this study.

Westbrook et al. (2013) described pedagogy as the sustained process whereby an individual acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from another individual. This definition by is related to learner-centred approach in teaching and learning where the first “individual” being referred to is a “learner or student” who acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from the second “somebody” who is the teacher.

To sum up the above definitions and combining them into one definition, Westbrook, et al. (2013) state that pedagogy comprises teachers’ ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and their students, and which impact on their ‘teaching practices’, that is, what teachers actually think, do and say in the classroom.

Considering the above definitions reviewed, this study defines pedagogy as traditional form of learning and teaching whereby the teacher is the active source, provider and organiser of learning while the learner is the passive

recipient of knowledge from the think tank. Therefore, pedagogical approaches to learning and teaching are more of teacher-centred approaches than learner-centred approaches.

2.4 Approaches to Teaching and Learning

The approaches to teaching and learning can be divided into teaching approaches and leaning approaches. This section reviews the literature on teaching approaches and learning approaches in two separate sub-sections. The main concepts of teaching and learning are centred on two polarised approaches that include teacher-centred approach to learning and learner-centred approach to learning. The first sub-section focuses on the review of literature on teaching approaches.

2.4.1 Approaches to Teaching

The changing face of teaching has moved away from didacticism to learning facilitation and with this is the need for teachers to play different roles and use new techniques (Stone, Cooper &Cant, 2014). Three main styles of teaching are propounded as didactic, socratic and facilitative (Tubbs, 2014).

2.4.1.1 Didactics style of teaching

Didactics is an outdated theory of teaching, and in a wider sense, it is a theory and practical application of teaching and learning that refers to the science of teaching (Stone, et al, 2014). Didactics is classified as a teacher-centred approach based on the assumption that the teacher is the primary agent in learning who imparts the results of experience, personal study and reflection (Austin, 2013).

In terms of instruction, Austin (2013) further states that a didactic approach to teaching refers to a manner of instruction in which information is presented directly from the teacher to the pupil, in which the teacher selects the topic of instruction, controls instructional stimuli, obligates a response from the child,

evaluates child responses, and provides reinforcement for correct responses and feedback for incorrect ones. Direct instruction is the principle of didactics and this is described by Quinonez (2014) as the traditional teaching, which includes lectures and teacher-led demonstrations where the b gives the students the knowledge and information they need to succeed.

With regard to theories of learning, didactic approaches utilize a variety of concepts from behavioural theory, including massed trials, operant conditioning, shaping, prompting, chaining, and reinforcement (Austin, 2013). In relation to the role of the learner in the learning process, didactics is a passive form of learning referred to as the “master-disciple” form of learning where the learner is passive, open, receptive, trusting and unquestioning (Stone, et al, 2014). The didactics approach to teaching and learning is typical of the Bantu educational system in Namibia before independence which was teacher-centred, with teachers viewed as the main source of knowledge and learners viewed as relatively passive recipients of knowledge (De la Sablonnie`re, Taylor, & Sadykova, 2009).

2.4.1.2 Socratic style of teaching

Socratic style of teaching is a problem-centred or problem-based teaching approach that assumes that the learner is the primary agent in learning. Socratic style is primarily inductive approach that uses discussion, dialogue and problem solving as methods of teaching (Stone et al, 2014). In contrast to didactics approach to teaching, Socratic style is an active form of learning involving shared inquiry where the learner is active, and it involves questioning, critical thinking, and discriminating learning to trust one's own judgment, i.e. independent thinking(Austin, 2013).

Quinonez (2014) describes Socratic style of teaching as an inquiry-based learning where the teaching style focuses on letting the learner explore and actively participate in learning. The teacher’s role is to uncover the question that the answer hides (Austin, 2013). In the Namibian context, the style of teaching is associated with the learner-centred approach where problem-solving is

emphasised as an essential skill that can be learned through practice (NIED, 1999).

To add to this, NIED (2010), supports the learner-centred approach as being able to make learners acquire new knowledge and skills with a view to transform knowledge in order to innovate and improve the quality of life. NIED (2010) further states that a knowledge-based society needs independent thinking and creativity as well as highly-developed communication, social and teamwork skills, typical characteristics of Socratic style of teaching.

However, it is argued that the Socratic method of teaching is not perfect for every discipline, and it is not perfect for every classroom, but it is a hugely an advantageous style of teaching that will help learners to truly learn and it is worth implementing at every school (Concordia University, 2012).

2.4.1.1 Facilitative style of teaching

The facilitative style of teaching emphasizes the personal nature of teacher-learner interactions where the teacher guides the learners by asking questions, exploring options, suggesting alternatives and encouraging them to develop criteria to make informed choices (Tubbs, 2014). In order to facilitate learning, teachers must be competent, possess self-esteem, hold authority within the classroom, show compassion, respect for individuals and be flexible in the range and style of teaching methods (Stone, et al, 2014).

The Australian Government (2015) outlined the following as the characteristics of facilitative teaching for effective learning:

- Giving learners the opportunity to collaborate and negotiate in determining their learning and assessment processes.
- Understanding learners as ‘co-producers’ of new knowledge and skills.
- Recognising that the prior learning and life experiences of learners are valuable foundations for constructing new knowledge and skill sets (although they can also impose limitations).

- Using flexible teaching approaches that address the different learning styles of learners at the same time valuing the social interactions involved with learning in groups.

One of the characteristics listed above is also emphasised by the Namibian education system and this includes recognising that the prior learning and life experiences of learners are valuable foundations for constructing new knowledge and skill sets. According to NIED (2010), a learner-centred approach to teaching and learning starts with what the learners already know and can do, then acquiring new knowledge through ways of working which are relevant and meaningful for them, and learning how to apply their knowledge creatively and innovatively. Therefore, facilitative teaching is a style of teaching based on learner-centred approach.

2.4.2 Approaches to Learning

While the above section reviewed literature on approaches to teaching, this section focuses on approaches to learning that include the two polarised approaches, the teacher-centred approach to learning and the learner-centred approach to learning. Although here and there in the above section, the two approaches to learning have been mention, the focus was primarily teaching and not learning. Therefore, this section is divided into two sub-sections that include the section for teacher-centred approach to learning and the section for learner-centred approach to learning.

2.4.2.1 Teacher-centred approach to learning

The main focus behind the teacher-centred approach to learning is the idea that the teacher is the main authority figure and learners are simply there to learn through lectures and direct instruction with the focus on passing tests and assessments (Quinonez, 2014). Supporting the above, Ahmed (2013) described teacher-centred approach to learning as an approach whereby learners passively receive information and the emphasis is on acquisition of knowledge, and teacher's role is to be primary information giver and primary evaluator.

Despite many arguments against teacher-centred approach, Liu, Qiao and Liu (2006) reports that teacher-centred teaching styles may be still dominant in actual practice. The role of the learner in the learning process using the teacher-centred approach is passive while the teacher's role is active passing on the knowledge and information needed to their learners.

Quinonez (2014) outlined the following as the characteristics of teacher-centred approach to learning:

- Direct Instruction - is used to define traditional teaching, which includes lectures and teacher-led demonstrations with the idea that only the teacher can give students the knowledge and information they need to succeed.
- Formal Authority – the teachers are the sole person of authority and leadership with more knowledge than the students and hold a higher status over their students. Classroom management is usually based on traditional methods involving teacher-designed rules and expectations.
- Expert - The teacher is basically the know-everything in the classroom where they are there to guide and direct their learners who are nothing more than empty vessels designed to receive the knowledge being given by the teacher.
- Personal Model - the teacher leads by example by showing their learners how to find information and how to understand it with the idea is that the learners will learn by watching and copying what the teacher does exactly as the teacher does it.

Taking the above into consideration, learning in the context of teacher-centred approach to learning can be regarded as passive learning since the teacher is active and the learner is passive. It is for this reason that the contemporary paradigm shift is towards the learner-centred approach to learning. As Ahmed (2013) said, shifting the focus from teaching to learning and from the teacher to the learner is the core of the effective educational process and fulfills Dewey's vision of empowering the learners.

2.4.2.2 Learner-centred approach to learning

The learner-centred approach also known as child-centred learning is a learning that mainly majors on the needs of the learner other than those of other involved parties such as administrators and teachers in the education system (Al-Zu'be, 2013). This definition concurs with the definition by NIED (1999) in Namibia which states that learner-centred approach is an approach whereby teachers put the needs of the learner at the centre of what they do in the classroom, rather than the learner being made to fit whatever needs the teacher has decided upon. This means that the activities which put the learner at the centre of teaching and learning must begin by using or finding out the learners' existing knowledge, skills and understanding of the topic (NIED, 1999). The teacher is responsible for developing different activities to find out what the learners already know about the topic.

According to Al-Zu'be (2013), the learner-centred approach is places the teacher to facilitate the learning, focusing on the interests, needs, and learning styles of the learner. With respect to the role of the teacher as a facilitator to teaching and learning in the learner-centred approach, Banning (2010) states that teaching is "no longer seen as imparting knowledge and doing things to the learner, but is redefined as facilitation of self-directed learning. In order to facilitate learning, teachers must be competent, possess self-esteem, hold authority within the classroom, show compassion, respect for individuals and be flexible in the range and style of teaching methods (Banning, 2010). According to Banning (2010), the emphasis on the facilitation of learning correlates with the humanistic approach to learning and represents a shift from didactic exposition to one of empowering the learner to learn theory and skills.

Quinonez (2014) identified two subcategories learner-centred approach to learning that include inquiry-based learning and cooperative learning. According to Quinonez (2014), inquiry-based learning is whereby learners participate and play an active role in their own learning and has three teacher models that include:

- Facilitator - an open classroom model places a stronger emphasis on the teacher-learner relationship by joining the learner in the learning process and encouraging the learners to be more independent, more exploratory, and involving more hands-on learning.
- Personal Model - a model where the teacher learn with the learners so that they can learn to explore and experiment with new ideas.
- Delegator - a hands-off approach that encourage autonomy in the learner's learning process.

Cooperative learning is another subcategories learner-centred approach associated peer learning as the classroom work is done in group projects and the learners are responsible for their own learning and development (Quinonez, 2014). The two models under this subcategory according to Quinonez (2014) include facilitator model (with a higher focus on group projects) and the delegator model (also a higher focus on group projects).

2.5 Benefits of Learner-Centered Approach

This section reviews the literature related to the benefits of learner-cantred approach. The focus is on benefits associated with learner activities and the learner-performance (results or outcomes).

2.3.1 Activities

According to Ahmed (2013), learner-centred approach is an approach to learning that enables the teachers put the needs of learners at centre of what they do in the classroom rather than the learners or students being made to fit whatever needs the teacher has decided upon. This approach involves activities that put the learners at the centre of learning which begins by using or finding out the learners' existing or prior knowledge, skills and understanding of the topic (Naisbitt & Naisbitt, 2010). Al-Zu'be (2013) emphasized that learner-centred approach allows learners to participate effectively more than the

learners during lessons. Learners are usually taught individually or in groups and they have a choice in choosing and organising learning activities.

The Teaching Excellence in Adult Literacy (TEAL) (2010) observed that changing the classroom affects relationships, curriculum, instruction, learner grouping, and evaluation in the following ways:

- Relationships between the instructor and learners are more collaborative;
- Curriculum is more thematic, experiential, and inclusive of multiple perspectives;
- Instruction allows for a broad range of learning preferences, builds from learners' strengths, interests, and experiences, and is participatory;
- Grouping is not tracked by perceptions of ability but rather promotes cooperation, a shared responsibility, and a sense of belonging; and
- Evaluation considers multiple intelligences, uses authentic assessments, and fosters self-reflection.

A study by Kasanda (2008) describes learners' attitude towards science in Namibia. He stated that through attitude shaping, we could find ways of improving our learners' behaviour and views towards school subjects especially History and help them perform better. With regard to learner activities and learner-centred approach, it can be summed up that learner-centred approach allow learners to participate effectively in practical activities and this in turn help to improve learner performance.

2.3.2 Results and learner-performance

The meta-analyses results of some of the papers that synthesize results from numerous individual studies confirm positive influences of learner-centred learning approaches to teaching on academic performance, attitudes toward learning, and persistence in programmes (Froyd & Simpson, 2010). In light of the growing evidence of on the effectiveness of learner-entered learning approaches, Handelsman et al. (2004), stated that there is mounting evidence that supplementing or replacing lectures (teacher-centred approach) with active

learning strategies and engaging students in discovery and scientific process improves learning and knowledge retention.

From the two subsections of this section, it can be summed up that learner-cantred approach promotes active participation which brings about motivation and knowledge.

2.6 The Barriers and Constraints of Using Learner-Cantered Approach in Education

Niikondo (2008) has evaluated the problems and constraints faced in Namibia in implementing learner-centred approach. Niikondo found that the unified, centralised and rigid education system made implementation of learner-centred approach (LCA) learning nearly impossible. In addition, the colleges of education by themselves did not provide the education necessary for graduating teachers (former students in colleges of education) to enable them to use learners centred approach competently. Moreover, teachers who were in practice faced several different problems such as difficulty changing the thought of the education system being a “bottom-up” approach rather than a “top-down” one. They also have difficulty in accepting the idea of being a co-learner, a guide and a facilitator who focuses on learners learning rather than content delivery.

In addition to the teachers, learners were thought to face difficulty in engaging themselves in higher level of thinking as they were used to memorisation and recall in their education system. Namibia educators anticipated that the students might not be willing to be the centres of instructions. Learners would have had difficulty in becoming active learners and prefer passive teaching methods which has less work to be done by the learners. Some teachers thought that the learners might exploit the use of the freedom provided by the LCA approach. In addition, O'Neill & McMahon (2005) states that “learner-centred learning is individual-centred and requires resources for its implementation”.

Niikondo (2008) further emphasised problems encountered regarding teacher-learners' ratio. The ratio of teachers to learners is too wide. There may be more 40 learners in a class to a teacher which is very absurd and there may be tendencies that the learners may not get enough attention on the subject taught. This means that understanding, creativity and productivity in the learning process may not be promoted because the ratio of teachers to learners is too wide.

2.7 Mixed Approaches to Teaching and Learning

Although modern learning favours the adoption and application of the learner-centred approach citing its inclination to constructivist theory and Socratic style of teaching and learning, Varatta (2017) argues that a foundational shift from a traditional classroom through adoption of a learner-centred approach does not eliminate the teacher. In spite of its advantages and how teachers and various educational stakeholders might favour it, the learner-centred approach may have its shortcomings associated with resource constraints. Tawalbeh and Al Asmari (2015) state that certain institutional barriers of schedule and time constraints may require teachers to finish the allocated material within a specified time limit, which entails the use of the traditional instructional methodology (teacher-centred approach) despite their qualifications, years of experience and understanding of the learner-centred approach (Tawalbeh & Al Asmari, 2015). Therefore, the situation may result in the use of a mixed approach to teaching and learning.

With regard to effectiveness of a teaching and learning approach, a study by Kusi in 2017 on teaching Science in Ghana revealed that tutors and student teachers shared views that there is no single method used to teach Science and the use of teaching method is dependent on the topic (Kusi, 2017). The Concordia University (2018) supports this as it stated that it is best for teachers to use a combination of approaches to ensure that all student needs are met and a mix of the two approaches can create a well-balanced educational atmosphere. To add to this, Freire (2005) mentioned that professional science teachers need to use a variety of methods in their teaching and must have the

ability to combine content and methodology to help in the classroom situation. Therefore, blending the two polarised approaches of teaching and learning may result in positive desired results depending on the situation and resource availability.

2.8 The Theoretical Framework

This section reviews literature on the theories of teaching and learning that guide the study on the teachers' perception of learner-centred approach in secondary schools in Namibia.

Learning theories are conceptual frameworks describing how information is absorbed, processed, and retained during learning with cognitive, emotional, and environmental influences, as well as prior experience, playing a part in how understanding, or a world view, is acquired or changed and knowledge and skills retained(Ormrod, 2012).

The main theories focused in this section are the *Behaviourism theory, the Constructivism theory* and *the Social-Transformative Theory*. This section sets out to analyse the theories of learning with regard to different pedagogical approaches to explain some of the assumptions associated with the shift from the traditional teacher-centred approach to teaching and learning to the contemporary learner-centred approach to teaching and learning.

2.7.1 Behaviourism theory

The behaviourism theory of learning emerged as a theory of learning from the work of Thorndike (1911), Pavlov (1927) and Skinner (1957) and it became dominant in the 1960s and 1970s (Ertmer & Newby, 2013). These are scientifically proved laws of stimulus-response, and classical and operant conditioning that are used to explain the learning process using rewards and sanctions, and/or trial and error (Ormrod, 2012). In support of the stimulus-response as biological mechanisms for behaviour change, Skinner (2011) states that all behaviour is caused by external stimuli (operant conditioning) and

can be explained without the need to consider internal mental states or consciousness (cognitive concept).

Generally, behaviourists look at learning as an aspect of conditioning that will advocate a system of rewards and targets in education. In support of the aspect of conditioning, Ertmer & Newby (2013) state, that behaviourism focuses on the importance of the consequences of those performances and contends that responses that are followed by reinforcement are more likely to recur in the future.

According to Watson (2013), pedagogic approaches that can broadly be described as ‘behaviouristic’ in origin may result in practices such as lecturing, demonstration, rote learning, memorisation and choral repetition. Therefore, behaviourism supports teacher-centred approach to teaching and learning where the teacher is the sole authority figure and knowledge is distributed out from different parts of a separated curriculum that children experience as distinct subjects, and directed from the teacher to the students in set sequences, with little student choice or interaction (Ormrod, 2012).

2.7.2 Constructivism theory

The Constructivism theory is associated with Piaget (1896-1980) and Bruner (1966). According to Culatta (2015), the major theme in the theoretical framework of Bruner is that learning is an active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, constructs hypotheses, and makes decisions, relying on a cognitive structure to do so where cognitive structure (i.e., schema, mental models) provides meaning and organisation to experiences and allows the individual to "go beyond the information given" (Piaget, 2013).

According to Piaget (2013), constructivism as a paradigm or worldview suggests that learning is an active, constructive process where the learner is an information constructor. Generally, individual learners actively explore their

environment by building on their existing cognitive structures or schemas followed by learning through a process of assimilation. In teaching and learning, constructivism theory means the teacher encourages learners to use active techniques (experiments, real-world problem solving) to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. The constructivism theory of learning agrees with the Socratic teaching style and the learner-centred approach to teaching and learning where the teaching style focuses on letting the learner explore and actively participate in learning in order to acquire new knowledge and skills with a view to transform knowledge in order to innovate and improve the quality of life.

2.7.3 Social Constructivism theory

Social constructivism sees knowledge as socially constructed and learning as essentially a social process mediated through cultural tools and language as a learner's first language (McKinley, 2015). Pedagogic practices consistent with social constructivist approaches prioritise student-teacher or student-student interaction through small-group, pair and whole-class interactive work, extended dialogue with individuals, higher order questioning, teacher modelling, showing, reciprocal teaching and co-operative learning can all be seen as justified by social constructivism (Boudry & Buekens, 2011).

Westbrook et al (2013) state that social constructivism supports learner-centred approach to teaching and learning with the assumptions that teachers share their learners' language and culture, accept a more democratic and less authoritative role, and know how to set up effective group work and tasks and to offer skilful supported instruction at the point it is needed. This argument is in line with context and the recently adopted approach of curriculum delivery in Namibia.

2.7.3 Transformative theory of learning

The Transformative Theory of Learning is associated with Jack Mezirow (1991) and is based on the principle that personal experience as an integral part of the learning process whereby a learner's interpretation of the experience creates meaning, which leads to a change in the behaviour, mind-set and beliefs (Pappas, 2016). Taylor (2008) also concurs with Pappas (2016) and he describes transformative learning theory that explains the learning process of constructing and appropriating new and revised interpretations of the meaning of an experience in the world.

Pappas (2016) identified three dimensions of the Transformative Learning Theory that include:

- Psychological - for real learning to take place individuals must be able to think autonomously rather than allowing society or culture dictate what we think and feel or who we are, we should create our own meanings and interpretations.
- Convictional - transformation of the belief system, such as personal values and assumptions instead of going along with the status quo.
- Behavioural - learners alter their lifestyle, for example, change in some habits based on the information they received.

Transformative learning theory is a theory of adult learning and has significant implications for the practice of teaching adults since adults create meaning through interpretation of their experience, which leads to a change in their behaviour (Taylor, 2008). The theory may partly apply to secondary school learners since they are in transition to adulthood and some of them are already mature. Secondary school learners in the study can interpret their experience and create meaning to the new phenomenon through interactions and group work.

2.9 Teachers' views on Learner-centred Approach: Empirical Review

This section reviews the findings from similar and related studies on teachers' views and perceptions on learners-centred approach to teaching and learning. This helps to link challenges associated with the adoption and implementation of learner-centred approach to teaching and learning in Namibia. Three similar and related studies on teachers' views and perceptions on learners-centred approach are reviewed in this section to find out the methodology used and the major findings of the studies.

Firstly, a study was done by Yilmaz (2008) on social studies teachers' views of learner-centred instruction explored social studies teachers' views of learner-centred instruction and learning theories by employing in-depth, semi-structured interviews. The results showed that the participants (teachers) had positive attitudes toward learner-centred instruction which they believed has the potential to make instruction engaging, enjoyable, involving, challenging, and relevant to students' learning (Yilmaz, 2008). According to Yilmaz (2008), teachers identified their teaching orientations more with the cognitive and constructivist approaches than the behaviourist approach.

Secondly we look at a similar study by Shihiba (2011) on the Libyan English Foreign Language (EFL) teachers' conceptions of the communicative learner-centred approach in relation to their implementation of an English Language Curriculum Innovation in Secondary Schools. This study employed a mixed approach to collect and analyse data from teachers and inspectors. Findings showed that the majority of the participants (teachers and inspectors) were positive about the notion of implementing the learner-centred approach for teaching English as a foreign language in the Libyan context. However, less experienced teachers were more positive about those related to the teacher-centred approach than experienced teachers.

The last and third study was done by Seng (2014) to investigate teachers' views of student-centred learning approach in Malaysia explored teachers' views on

student-centred learning approach through individual in-depth interviews. Findings of the study showed that teachers who exposed students to some elements of student-centred learning, saw students actively engaged in the learning process, aware of their own responsibilities, have a sense of autonomy in learning and learned from their experiences (Seng, 2014). However, challenges and constraints faced by teachers in implementing SCL approach were identified and these include lack of will to make real meaningful change that challenges the current pedagogical underpinning of the education system as the mode of assessment remained the traditional multiple choice tests based on a specific textbook which limited the extent to which student-centred learning will gain popularity and relevance for students (Seng, 2014).

From the findings of the three selected similar studies on teachers' views on learner-centred approach, it can be concluded that leaner-centred approach is being appreciated but it comes with challenges of slow adoption and probably, resistance to change. The situation is similar to Namibia where recent policy initiatives have focused on improve learning outcomes that can be reflected by improved performance of learners both; in class and at national level as reflected by the national examination results statistics. But this is not happening as performance in schools is a major concern. As a results, this call for a need to explore how teachers in Namibia understand the principles of learner-centred education, challenges they face and perception that they may have, in implementing learner-centred approach practices.

2.10 Summary

This chapter presented the literature review of the study on science teachers' perceptions of learner-centred approach. The literature reviewed covered concept of teaching and learning with a focus on learner-centred approach. Learner-centred approach has been found to be a new form of teaching and learning being adopted and implemented. In relation to learning theories, the learner-centred approach to teaching and learning is related to constructivism theory and social constructivism theory while the traditional teacher-centred approach is similar to the behaviourist theory.

Teaching and learning have been found to have evolved from teacher-centred approach to learner-centred approach. Furthermore, the literature covers the teachers' views about the implementation of learner-centred approach and the challenges associated. The teachers' views about the implementation of learner-centred approach have been covered through the content review of three selected similar studies. The findings show that learner-centred approach has been appreciated but it comes with challenges of slow adoption and probably, resistance to change.

The next chapter presents the methodology and design of the study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

In the previous chapter, a review of literature on science teachers' perception of learner-centred approach was presented. This chapter describes the process by which data was collected to achieve the purposes of this study, beginning with an introduction and description of the research design, research population and study sample. The last section involves a description of the data collection and data analysis strategies used, together with information about research rigour.

3.2 Research Problem

The problem focused in this study pertains to a pedagogy that does not reflect a change on teachers' teaching approach; hence poor performance of learners in secondary schools. In Namibia, recent policy initiatives have focused on improve learning outcomes that will be reflected by improved performance of learners both in class and at national level as reflected by the national examination results statistics. However, this is not happening, as performance in schools is a major concern.

Both the 2010 National Curriculum for Basic Education and the 2007 Education and Training Sector Improvement Programme (ETSIP) advocate the use of teacher centred approach during teaching as opposed to teacher centred approach. However, the problem with the current pedagogy is that it does not reflect a change on teachers' teaching approach. The argument is supported by Niikondo's (2008) study that found despite the recent introduction of learner-centred educational practices and the perceived positive impact on learner's motivation, achievement, learning and understanding, there is still a lack of substantial learner-centred change in classrooms. It is therefore, assumed that lack of substantial adoption of learner-centred approach in classrooms can be attributed to high failure rate among learners in secondary schools in Namibia.

3.2 Research Design

This study was carried out within a pragmatic research approach, using an explanatory sequential mixed-methods design. Creswell (2014) states that a pragmatic approach opens the door to multiple methods, different worldviews, different assumptions as well as different forms of data collection and analysis. This involved collecting quantitative data first and then explaining the quantitative results with in-depth qualitative data (Creswell & Plano Clark, 2011).

In this study, followed an explanatory sequential design used that involved the transition from quantitative approach to qualitative approach. The explanatory sequential process was done in three phases where phase 1 was a quantitative approach involving collection of quantitative data by means of a questionnaire survey. Phase 2 and phase 3 were qualitative approaches that involved collection of qualitative data by means of interviews and observations. The approach was deemed important since collecting diverse types of data provides an in-depth understanding of teacher understanding of learner-centred approach and challenges they face with teaching some topics in the teaching field and therefore answer the research questions. Thus, this research is based on a framework that uses a mixed method design. Morse (2003) explained a mixed method design as one that incorporates both quantitative and qualitative strategies. The sequence adopted in this study is summarised in Figure 3.1 below:

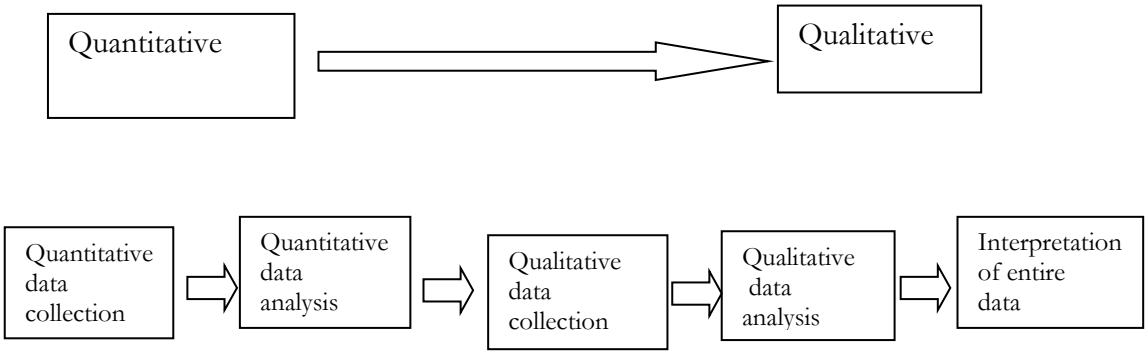

Figure 3.1: *Explanatory sequential design used (Adapted from Creswell, 2009, p.209)*

3.3 Data collection

The data on science teachers' perceptions on learner-centred approach was collected in two phases. Phase one consist of a broad survey questionnaire in order to provide answers to research questions 1, 2 and 3. This approach is supported by Ivankova, Creswell and Stick (2007) posit that "a study that employs mixed methods approach would be the use of a survey to first establish attitudes of participants towards a topic and then follow-up with in-depth interviews to learn about individual perceptions on the topic" (p. 206).

Phase two consist of an illuminative case study where data was collected by means of in-depth interviews and phase three involved lesson observations. Phases two and three aimed at gaining more insight into the views of participants about the learner centred approach. Following the argument by Creswell (2013) that more insight is gained from the combination of both qualitative and quantitative research than either form by itself; the two approaches, i.e. in-depth interviews and lesson observations; provided an in-depth understanding of teachers' understanding of the learner-centred approach and challenges they face with while teaching science.

The adoption of a mixed method entails that, the researcher employs deductive and inductive analysis in the same research study.

3.4 Case Study Research

The term "case study" has multiple meanings, whether to describe a research method or a unit of analysis (Creswell, 2013). Case study research could be positivist, interpretive or critical depending on the philosophical assumptions of the researcher (Creswell, 2013). Generally, case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more method (Thomas, 2011). Zainal (2007) further elaborated the definition by saying that a case study method enables a researcher to closely examine the data within a specific

context by selecting a small geographical area or a very limited number of individuals as the subjects of study.

Concerning the current study, it is a case of 20 science teachers from selected junior secondary schools in the Omaheke Education Region in Namibia. As mentioned above, this is a case study aimed at exploring a real-life phenomenon through detailed contextual analysis of a small geographical area to make the study more specific rather than a generalised one.

3.4 Research Population and sample

3.4.1 Population

Welmann and Kruger (2001) refer to a population as the study object which may be individual persons, groups and organisations. The population of the study includes all 31 Junior Secondary School teachers from 10 government secondary schools in the Omaheke Region in Namibia.

3.4.2 Sample and sampling method

Both probability and non-probability sampling techniques were used to select a sample of 20 participants from 5 target schools in the Omaheke region. Probability stratified sampling technique was used to select 5 schools from all 10 government secondary schools in the Omaheke region from which 4 teachers who were available at the time of the survey were conveniently selected from each target school.

Non-probability convenience sampling was used to select 4 teachers from each target school. Convenience non-probability sampling method is more convenient and economical as the sample is selected from the population in some non-random manner (Creswell, 2012). The choice of study sample was informed by teachers' knowledge of science and willingness to participate in the study.

All the 20 participants were surveyed during phase 1 of data collection using the questionnaire. With regard to interviews and lesson observation for phase 2 and phase 3 of data collection, one school with a total of 5 science teachers was subjectively and conveniently selected. The 5 participants took part for all the last 2 phases, phase 2 (interviews) and phase 3 (lesson observation). The 5 participants were all from the same school which was subjectively and conveniently selected.

3.5 The research instruments

Three instruments were used to collect data from participants, namely survey questionnaire, interview protocol and lesson observation protocol. The survey questionnaire was designed to provide answers to all the three research questions 1, 2 and 3 while the interview protocol was designed to provide answers to two research questions 1 and 3. Sekaran and Bougie (2013) emphasised that survey questionnaires are an efficient data collection mechanism when the researcher knows exactly what is required. Lesson observations were intended to elicit information on the exact methods and approaches used by the teachers while they conduct their lessons thereby answering question 2 of the research questions. Table 3.1 below provides an overview of the design of the data collection instruments used in the study.

Table 3.1: Overview of data collection methods

Phase	*Instruments*	*Nature of the empirical material*	*Research question 1*	*Research question 2*	*Research question 3*
1	Survey questionnaire	Transcriptions	✓	✓	✓
2	Open-ended individual interview	Audio-recorder and transcriptions	✓		✓
3	Lesson Observation	Researchers' observation checklist		✓	

3.6 Data collection

3.5.1 Phase 1: Survey questionnaire

In phase 1, data was collected from participants using a survey questionnaire. The open-ended questionnaire aimed to elicit science teachers' views about the implementation of learner-centred approach in the Omaheke Region.

3.5.1.1 Administration of the open-ended questionnaire

The questionnaire consisted of several items aimed at soliciting for general data on teachers' views about the implementation of learner-centred approach (Appendix H). A letter that explained the purpose of the study and clearly stated that all information that they gave was confidential (Appendix F) accompanied each survey questionnaire. Each respondent teacher was individually informed about the purpose of the study and anonymity was emphasised to each respondent. Each respondent was given 20 to 30 minutes to complete the questionnaire in the presence of the researcher. This gave the chance for the respondent to ask for any clarification of the questions when necessary. Furthermore, this ensured that all questions were answered as the researcher was personally monitoring the completion of each questionnaire.

3.5.2 Phase 2: Lesson observation

Lesson observations involved the use of an observation checklist to record what was observed as each target teacher performed his teaching activity in a classroom (Appendix O). The recorded notes were then prepared for transcription and analysis.

3.5.2.1 Administration of the lesson observation

During lesson observations, I presented myself as a researcher seeking only to observe events during the course of their teaching and learning process. The aim was to identify the actual teaching and learning approaches used by

science teachers. The observation was guided by the observation protocol (Appendix O).The themes that guided my observations also enabled me to take note of all contextual features in relation to the learning and teaching process without relying on opinions or perceptions only.

Each participant was observed and audio-recorded once on dates and times shown in Table 3.

Table 3.2: Science lessons that were observed

Date	**Teachers**	**Class observed**	**Time**
05 Sept 2018	T1	Grade 8	08:00 – 08:45 am
06 Sept 2018	T2	Grade 9	09:45 – 10:30 am
07 Sept 2018	T3	Grade 10	11:00 – 11:45 am
10 Sept 2018	T4	Grade 10	10:00 – 10:45 am
11 Sept 2018	T5	Grade 10	08:45 – 09:30 am

Each teacher was observed at least once while teaching science in different grades. This made the number of observation per teacher to be two. This strategy allowed me to capture how the teacher was teaching in two different grades.

3.5.3 Phase 3: Open ended interviews

The open-ended interviews consisted of several items aimed at soliciting for detailed in-depth data on teachers' views about the implementation of learner-centred approach and the choice of the approaches used in class (Appendix I).

3.5.3.1 Administration of the interviews

With regard to interviews, appointments were done for each interviewee participants and the date and time for interview was agreed upon before each interview was carried out. The data collection by interviews involved face-to-face interviews. The verbal responses to the interview were recorded as short

notes to be transcribed and analysed later (Appendices J, K, L, M and N). The interviews took place during break period and lunch hour because it was deemed appropriate/convenience for both the teachers and researcher.

3.7 Data analysis and interpretation

The quantitative data collected by means of questionnaires was entered into the excel spreadsheet computer package which was used to sum entries, tabulate entries and calculate percentage frequencies. The calculated percentage frequencies are tabulated and converted into frequency distribution bar chart graphs for easy analysis.

The bar chart graphs are presented as findings in Chapter 4 of the final project report. A descriptive approach was used to describe, interpret and discuss the results with emphasis on averages, ranges of values and percentages or counts to understand a set of how a variable behaves across its range of possible values (Carlberg, 2014). The tables and graphs of analysed data were presented as findings in Chapter 4 of the final project report.

The qualitative data collected by means of interviews and observation checklists was analysed qualitatively using content and thematic analysis. Thematic analysis involved reading through the questionnaires and drawing connections between the discrete pieces of data (Bell & Waters, 2014). Firstly, the raw data from interview responses was transcribed before being subjected to thematic analysis. Steps outlined by Braun and Clarke (2006) were followed and these include familiarisation with data, followed by the generation of the initial codes, searching for themes among codes, reviewing themes, defining and naming of themes and lastly the production of the final report.

Themes were developed after reading and re-reading transcribed interview responses and observation checklist notes and noticing important information. Six themes emerged from the thematic analysis of interview responses and these include demonstration, listening, basic competences, curriculum, objectives and psychomotor skill. On the other hand, three themes emerged

from observations and these include descriptive notes, reflective notes and teaching methods. The content of emerging themes was then narrated into descriptive findings presented in chapter 4.

3.8 Limitations of the study

Since the study used teachers as respondents, feelings of being assessed are likely to have affect responses. To reduce this effect, teachers were told that the study is not assessing their performance but the applicability and effectiveness of learner-centred approach performance management instrument.

3.9 Validity and reliability

3.9.1 Validity

Welmann et al. (2005:142) defined validity as the extent to which the research findings accurately represent what is really happening in the situation. Maree (2009:216) also described the validity of an instrument as the extent to which it measures what it is supposed to measure. One widely accepted classification consists of three major forms of validity such as content validity, criterion-related validity and constructs validity. Face validity and content validity are the two forms of validity used to measure what is to be set out in the questionnaire.

Content validity was used for this study. The development of a content valid instrument is typically achieved by a rational analysis of the instrument by raters (experts) familiar with the construct of interest or experts on the research subject (Sangoseni, Hellman & Hill, 2013). Initially, the researcher used the research objectives and research questions to develop question items in each instrument. This ensured that the content of the research instrument addressed the research objectives and research questions of the study. In order to ensure content validity, the supervisor as an expert was consulted to rate the content validity of the questionnaire, interview guide and observation checklist to avoid ambiguity and facilitate answers to all the research questions. Corrections were done before the instruments were used to collect the data.

3.9.2 Reliability

Maree (2009) described reliability as the extent to which a measuring instrument will give the same results and consistent. Therefore, it implies that the reliability of the questionnaire instrument is the same over time. Internal consistency reliability was used to rate uniformity and consistency among the questions in the questionnaire and interview guide. Working colleagues (2 fellow teachers) were asked to respond to the questionnaire and the interview guide as a form of piloting the instruments to identify any errors or inconsistencies that may demand for the revision of the research instruments. No errors were identified and no difficulties were encountered by the respondents when the responded to the instruments.

3.10 Ethical consideration

For the purpose of ethical considerations, the research proposal was submitted to the University of South Africa (UNISA) Research Ethics Committee (REC) for the ethical clearance and ethical clearance certificate was obtained (Appendix A) before collecting the data. Furthermore, permission to conduct the research was applied for from the responsible authorities including the Regional Education Directorate (Appendix B and C) and the Secondary School principals (Appendix D and E).

Finally, participants were informed of their rights and risks of participating in the study according to the approved informed consent letter (Appendix F and G). All participants were to give their informed consent before data collection begins.

3.11 Summary

This chapter presented and described the methodology used in the collection and analysis of primary data. The research design, research population and study sample have been described and justified in this chapter. The ethics

followed in the research process have also been elaborated in this chapter. The next chapter presents the results obtained from the primary research.

CHAPTER FOUR
PRESENTATION OF RESULTS

4.1 Introduction

The previous chapter described and explained the methodology used for the study. Following the methodology used for the study, this chapter presents the results of the primary study done. The results presented in this chapter are in line with the research objectives and research questions. The results presentation includes both graphical presentations for results of quantitative data and descriptive narrations for results of qualitative data. The first section presents the demographic profile of the respondents/participants followed by objective based results before concluding the chapter.

4.2 Demographic profile of respondents

The demographic profile presented under this section is of sample 20 science teachers, all from government schools from Omaheke Region comprising of 5 heads of departments and 15 ordinary teachers.

4.2.1 Gender of respondents

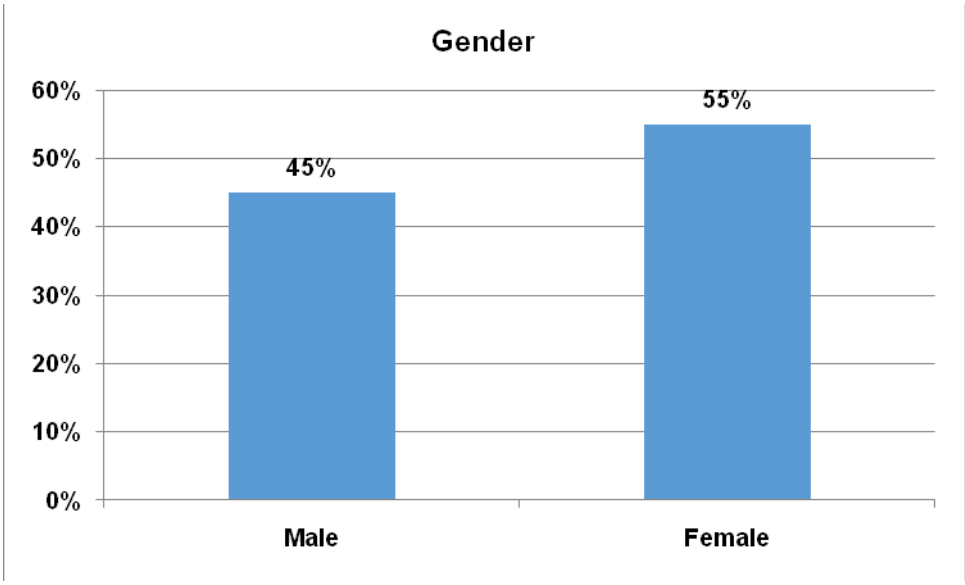

Figure 4.1: Gender

Fig 4.1 shows gender information of 20 teachers who are the respondents. Three quarters (75%) of the respondents are female teachers while male teachers constitute only 25%, implying that female respondents occupy a greater portion of the sample.

4.2.2 Level being taught

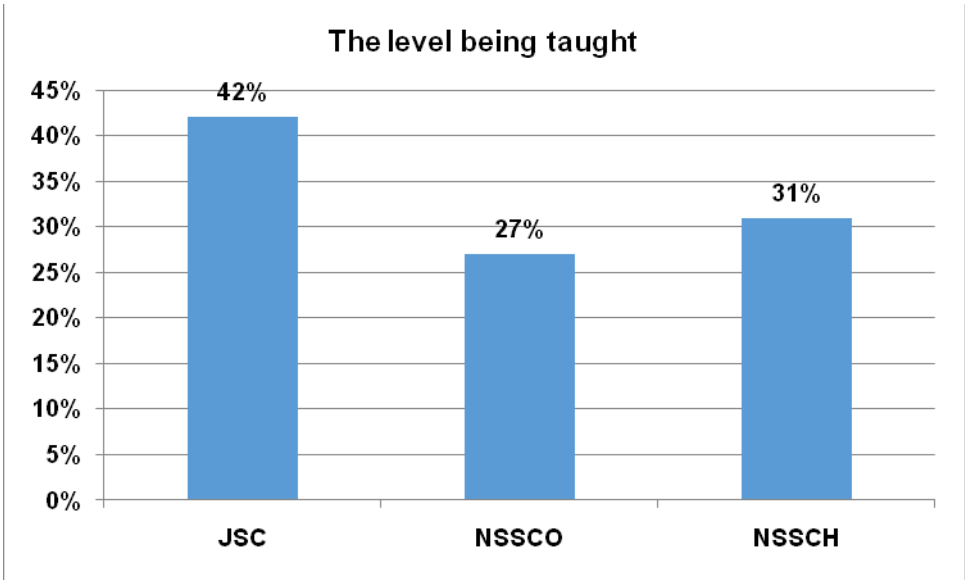

Figure 4.2: Level

From Figure 4.2 above, most (55%) of the total population teaches JSC level, followed by 40% of the respondents who teaches Namibia Senior Secondary Certificate Higher (NSSCH) level. However, the least (35%) observation is obtained from those teachers who teach Namibia Senior Secondary Certificate Ordinary (NSSCO) level.

4.2.3 Teaching experience of respondents

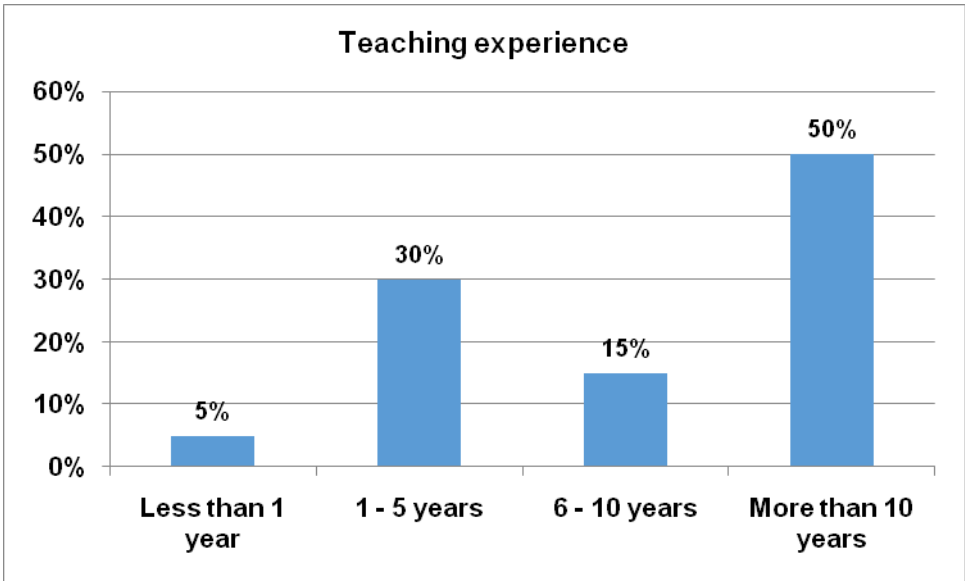

Figure 4.3: Teaching experience

All of the 20 teachers had responded to the question concerning their teaching experience and their responses were then summarised in Figure 4.3. There results show that half (50%) of the respondents had more than 10 years teaching experience, followed by those who had 1 to 5 years teaching experience who occupies 30% of the sample. The least observation is that of 5%, which features respondents who had the least teaching experience of less than 1 year.

4.2.4 Highest qualifications of respondents

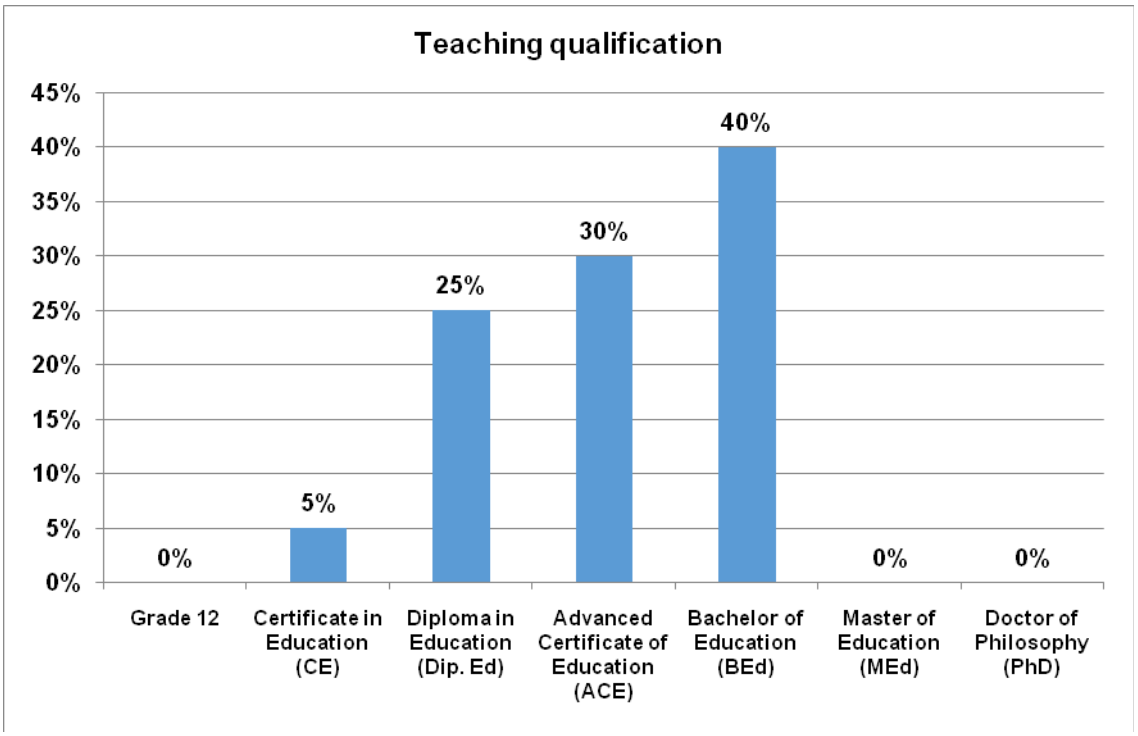

Figure 4.4: Highest qualifications

Figure 4.4 shows that educational qualifications of the respondents range from Certificate in Education (CE) to Bachelor in Education (BEd). The highest observation is obtained from holders of BEd who occupies 40% of the total population, followed by 30% of the respondents who hold Advanced Certificate of Education (ACE). Only 5% of the sample hold CE, while the teaching qualifications of Grade 12, Master of Education (MEd) and Doctor of Philosophy (PhD) recorded zero observations.

4.2.5 Average number of learners per class

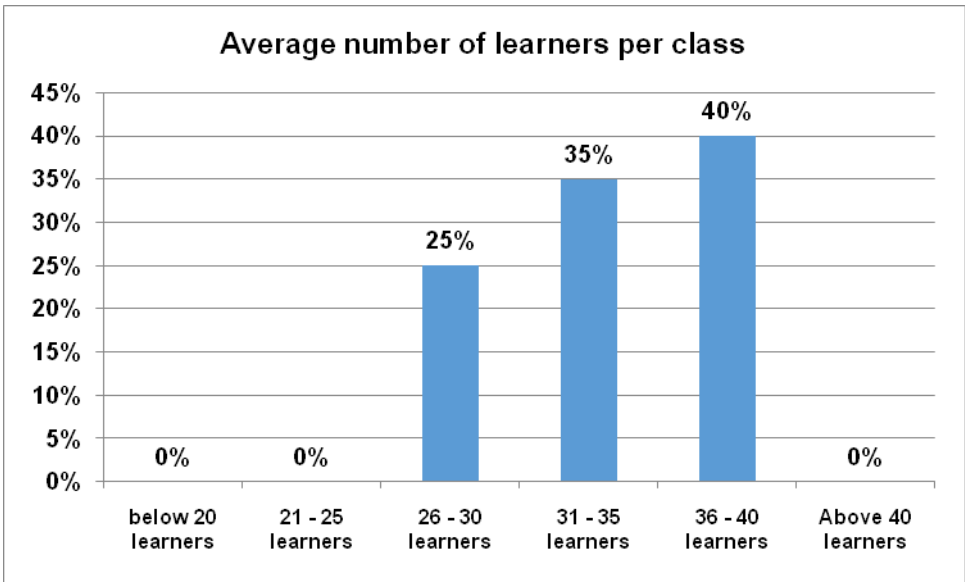

Figure 4.5: Average number of learners

Results show that 40% of the respondents teach an average number of learners of 36-40 per class, followed by an observation of 35% of the respondents who teaches an average of 31 to 35 learners. 25% of the responds teaches an average of 26 to 30 learners. However, from the sample surveyed, neither of the respondents teaches an average number of learners who are neither below 25 nor above 40, as shown in Figure 4.5.

4.3 The implementation of learner-centred approach in Omaheke Region in Namibia

This section presents the results on teachers' views on the implementation of the learner-centred approach for teaching Science at Junior Secondary Certificate learners (Grade 8 – 10). The results are both quantitative from questionnaires and qualitative from in-depth interviews. The respondents were asked questions to give their views on both; the understanding and implementation of the currently introduced learner-centred approach as opposed to the former teacher-centred approach.

4.3.1 Understanding of the learner-centred approach

The results on the understanding of the learner-centred approach by respondents were obtained through interviews with 5 conveniently selected teachers. ~~for interview~~. With regard to the understanding of the learner-centred approach, Participant 1 had this to say, "*learner-centred approach puts emphasis on the part of the learner*". Participant 2 said, "*learner-centred approach dictates that learning must be active on the part of the learner not the teacher".* While Participant 1 and Participant 2 concur, Participant 3 and Participant 4 had their version that focuses on the role of the teacher by stating that the teacher is a facilitator of learning while the learner is the executor who learns while being guided by the teacher. On the other hand, Participant 5 said, "*learner-centred approach reflects self-directed learning"*

4.3.2 Understanding of the teacher-centred approach

The data on understanding of teacher-centred approach by teachers was obtained by interviews with a sample of 5 Science teachers conveniently selected for interview. The interview schedule was guided by 5 questions (see Appendix B). Teachers were asked six questions that sought to provide information on their understanding of teacher-centred approach. The following table shows the responses of participants concerning these six questions.

Table 4.1 Teachers responses to the six interview questions

Question	**Researcher's comment**
1. How do you teach Science?	
Response taken from T1 *(Appendix C, Line 5)*	**T1**: uses psychomotor skill methods since science is a practical subject.
Response taken from T2 *(Appendix D, Line 2)*	**T2: Uses** learner-centred approach
Response taken from T3 *(Appendix E, Line 3)*	**T3:** explain objectives, teach and give activities according to learning objectives**.**
Response taken from T4 *(Appendix F, Line 5)*	**T4:** introduces the topic as per objectives and ask learners at the end of the lesson to evaluate understanding.
Response taken from T5 *(Appendix G, Line 5)*	**T5:** explains the objectives and relate the objectives to real life activities.
Question	**Researcher's comment**
2. What guides your choice of a teaching method?	
Response taken from T1 *(Appendix C, Line 5)*	**T1:** is guided by the curriculum that puts emphasis on use of practical activities.
Response taken from T2 *(Appendix D, Line 2)*	**T2:** is guided by the topic and the type of learners.
Response taken from T3 *(Appendix E, Line 3)*	T3: is guided by learning objectives.
Response taken from T4 *(Appendix F, Line 5)*	T4: is guided by basic competences of learners
Response taken from T5 *(Appendix G, Line 5)*	T5: is guided by objectives to be achieved and competences to be mastered.
Question	**Researcher's comment**
3. *How does teacher-centred approach look like in class?*	
Response taken from T1 *(Appendix C, Line 5)*	The results showed that T1 take the centre-stage while learners are more of spectators as the teacher demonstrate practical science experiments.
Response taken from T2 *(Appendix D, Line 2)*	T2 suggests that the teacher-centred approach is an autocratic way of teaching.
Response taken from T3 *(Appendix E, Line 3)*	T3 states the teacher does the talking while learners are listening.
Response taken from T4 *(Appendix F, Line 5)*	According to T4, teacher-centred approach occurs when the teacher asks some questions and learners respond to questions.
Response taken from T5 *(Appendix G, Line 5)*	T5 states that teacher-centred approach consists of teacher-chalk-talk while learners are passive.
Question	**Researcher's comment**
4. *What aspects of your lesson demonstrated the presence of teacher-centred approach?*	
Response taken from T1 *(Appendix C, Line 5)*	T1 states that Teacher-centred approach occurs when demonstrating a practical activity to learners before they do it themselves.
Response taken from T2	T2 states that teacher-centred approach occurs when the

(Appendix D, Line 2)	teacher give instructions to the learners.
Response taken from T3 *(Appendix E, Line 3)*	T3 states that teacher-centred approach occurs when the teacher demonstrates a practical activity while learners are listening,
Response taken from T4 *(Appendix F, Line 5)*	T4 states that teacher-centred approach occurs when the teacher give a lot of explanations and do much of the work rather than learners.
Response taken from T5 *(Appendix G, Line 5)*	T5 states that teacher-centred approach occurs when there is too much exposition rather than learners discovering.
Question	**Researcher's comment**
5. What are the advantages of teacher-centred approach?	
Response taken from T1 (Appendix C, Line 45)	T1 suggests that teacher-centred approach provides self-regulatory learning and improves psychomotor skills, decision-making skills and referent skills.
Response taken from T2 (Appendix D, Line 45)	T2 suggests that the teacher-centred approach allows the teacher to control the direction to achieve the lesson objective.
Response taken from T3 (Appendix E, Line 45)	T3 suggests that the teacher-centred approach is time saving.
Response taken from T4 (Appendix F, Line 45)	T4 suggests that the teacher-centred approach enables the teacher to cover the topic within a short period.
Response taken from T5 (Appendix G, Line 45)	T5 suggests that the teacher-centred approach enables the teacher to cover the content within the allocated time.
Question	Researcher's comment
6. *What are the disadvantages of teacher-centred approach?*	
Response taken from T1 (Appendix C, Line 45)	T1 suggests that the teacher-centred approach negates the advantages of teacher-centred approach.
Response taken from T2 (Appendix D, Line 45)	T2 suggests that the teacher-centred approach make learners to have less freedom to express themselves as the teacher dominates.
Response taken from T3 (Appendix E, Line 45)	T3 suggests that the teacher-centred approach make learners passive and mastering content by learners is ineffective.
Response taken from T4 (Appendix F, Line 45)	T4 suggests that the teacher-centred approach makes learners to easily forget since they are not doing much of discovering.
Response taken from T5 (Appendix G, Line 45)	T5 suggests that the teacher-centred approach has no mastery of the content as learners do not interact to discuss and share ideas. Learners tend to be passive.

4.3.3 Learner-centred approach and learning theories

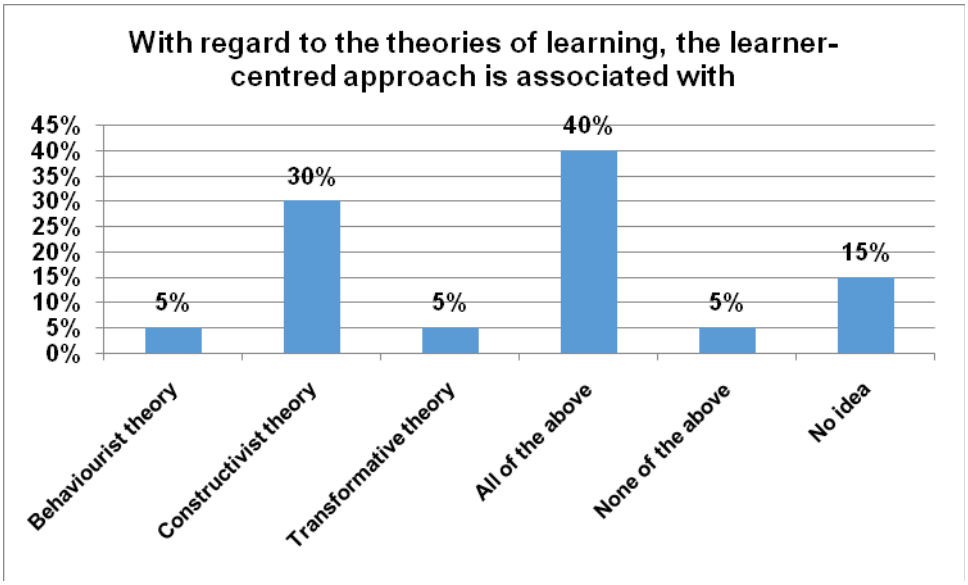

Figure 4.6: Learner-centred approach and learning theories

Figure 4.6 shows learners centred approach responses of the 20 respondents. 40% of the respondents agrees that learner centred approach is associated with behaviourist, constructivist and transformative theories. The decision is followed by 30% of the total sample who views learner centred approach to be associated with constructive theory. From the given sample, responses of behaviourist, transformative and none of the above had 5% each of the responses.

4.3.4 Comparison of the current and the previous curricula

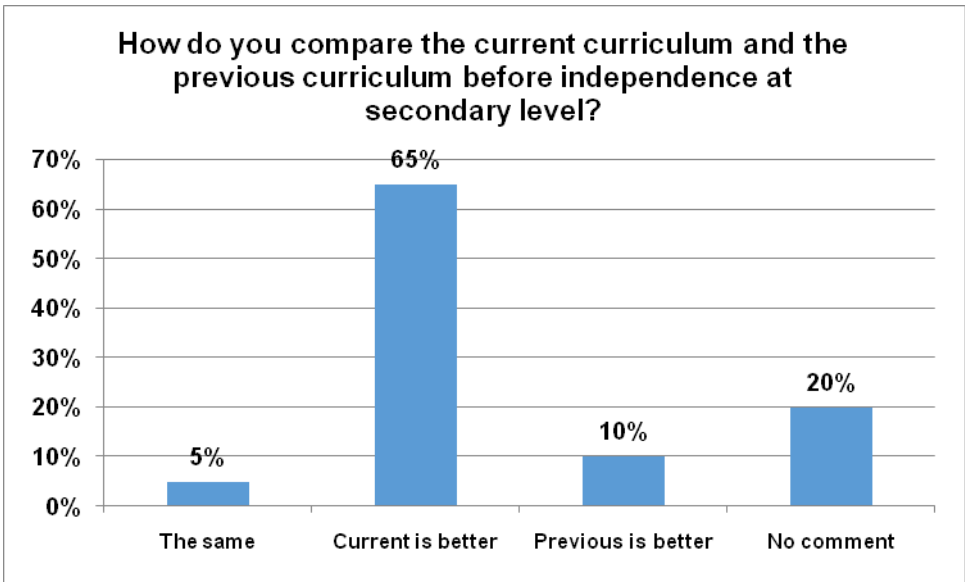

Figure 4.7: Comparison of current and previous curricula

Results show that the majority (65%) view the implementation of learner-centred approach as favourable as they state that the current is better. Only 10% of the respondents favoured the previous while 5% viewed the both to have equal weight. The remaining 20% had no comment.

The reasons to support the current raised by many (65%) include, "*one approach of the previous curriculum is not effective as compared to the current which is more of a mixed approach"*. Furthermore, it is reported that, "*the current approach engages both the learner and the teacher in learning and teaching".* In contrast, those in support for the previous approach before independence emphasised that the teacher must be in full control of the learning process since he or she is a professional with the needed knowledge and information to impart to learners.

4.4 Learning approaches used by secondary school teachers in Omaheke Region in Namibia

This section presents results of all research instruments that include questionnaire, interview protocol and observation protocol on teaching and learning approaches used by secondary school teachers in Omaheke Region in Namibia. The purpose is to find answers to research question number 2, “How do secondary school teachers in Omaheke Region in Namibia approach their teaching?” Sub-section 4.4.1 presents results from the questionnaire, sub-section 4.4.2 presents results from the interview protocol and sub-section 4.4.3 presents results from the observation protocol.

4.4.1 State the approach or approaches you use to teach

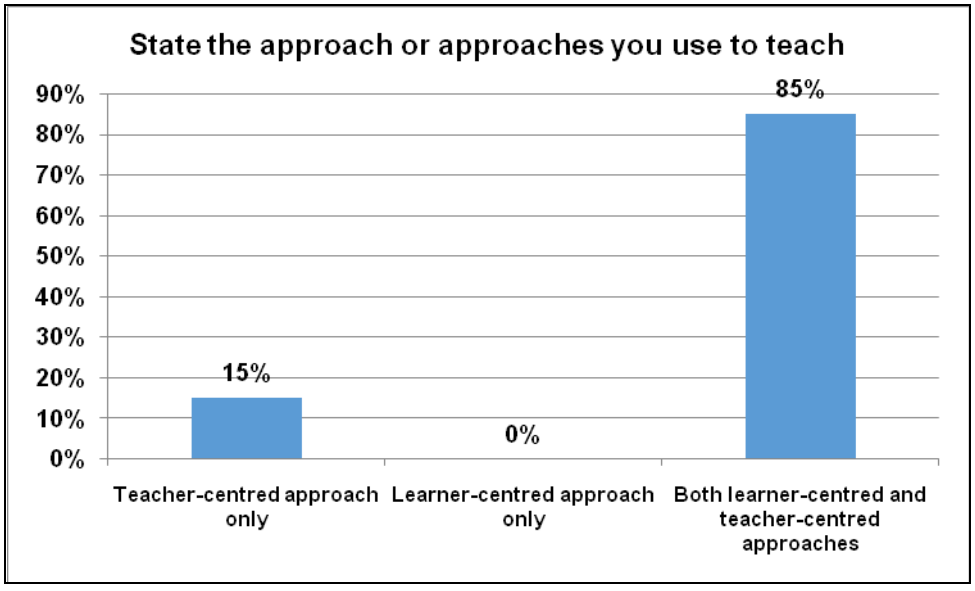

Figure 4.8: Approach used

Figure 4.8 shows that most (85%) of the respondents uses both learner-centered and teacher-centered approaches. The decision is then followed by 15% of the sample under study who uses teacher-centred approach only, while none of the respondents uses learner-centred approach only.

4.4.2 Methods used by Science teachers to teach Science

In an open-ended interview, teachers were asked the question, *"In your teaching, how do you teach Science?"* Responses showed mixed approaches among Science teachers. For instance, Participant 1 uses *"methods that are psychomotor skill-based as the revised curriculum puts more emphasis on practical approach*" while Participant 2 uses *"learner-centred self-discovery approach when doing scientific investigation by the topic and type of learners".* Participants 3, 4 and 5 use objective-based approach with the progression of the lesson and activities being guided by topic objectives and competences in the syllabus.

4.4.3 How do secondary school teachers in approach their teaching?

In order to answer the above question, which is question 2 of the research questions, lesson observations were conducted with the intention to elicit information on the exact methods and approaches used by the teachers while they conduct their lessons. The following tables 4.2 – 4.6 present results from observed lessons.

Table 4.2: Teacher 1 (T1) Grade 8 Physical Science

Time	Descriptive notes	Reflective notes	Teaching method(s)
08.00 - 08.45	• Class group had 30 learners including 16 girls and 14 boys. • The physical and environment of the class supports teaching and learning. • Learners sat in rows. • The classroom environment was inviting, conducive to quality teaching and learning. • The classroom had displayed posters and printed materials with a neat and well used blackboard with chalk.	• The subject content and learning tasks were clearly presented in a stimulating manner. • The lesson introduction engaged learners as the teacher asked questions from the previous lesson. • Learners had the opportunity to participate in the classroom. • The teaching and learning aid used helped learners to grasp the content effectively. • Written work was given to check if learners mastered the content.	• The teacher communicated through questioning, instructions giving, explaining and feedback. • The teacher used varieties of activities. • Mixed approach was used by the teacher.

Table 4.3: Teacher 2 (T2) Grade 9 Physical Science

Time	Descriptive notes	Reflective notes	Teaching method(s)
09.45-10.30	• The class had 40 learners of which 19 were boys and 21 were girls. • Each learner had his/her desk and chair, • The classroom environment was conducive with all posters displayed related to the subject content being taught.	• The subject content was presented in an orderly manner, • The teacher communicated by explaining the content. Learners were not participating effectively • Teaching and learning aids were not used in the lesson.	Teacher-centred

Table 4.4: Teacher 3 (T3) Grade 10 Physical Science

Time	Descriptive notes	Reflective notes	Teaching method(s)
11.00-11.45	• The class had the 35 learners with 20 boys and 15 Girls, • Each learner had a clean desk and chair in the classroom. • The arrangement of the learners and their desks support different activities and methodologies. The classroom was neat with few posters displayed on wall related to the subject content being taught in the classroom.	• The teacher was prepared for the lesson. • Poor introduction of the lesson because learners were not engaged in the lesson learners were not given activities to check whether they master the content. • There was no teaching and learning aid used in the classroom.	Learners were passive , the teacher was the master of the classroom lack of involvement of learners in the class and no group work. Teacher-cantred approach was used by the teacher.

Table 4.5: Teacher 4 (T4) Grade 10 Physical Science

Time	Descriptive notes	Reflective notes	Teaching method(s)
10.00 - 10:45	• The total of 40 learners in class with 25 girls and 15 boys. • Each learner had his/her desk and chair. • The classroom had damaged wooden floor and one window was broken.	• The teacher introduced the lesson by recapping previous work. • Learners had the opportunity to participate by asking questions. • Written work was given to learners. • The teacher used the textbook as a teaching and learning aid.	The teacher explained the content to learners while learners were listening (teacher-centred approach).

Table 4.6: Teacher 5 (T5) Grade 10 Physical Science

Time	Descriptive notes	Reflective notes	Teaching method(s)
	• The class had 40 learners with 20 boys and 20 girls. • The classroom environment was conducive to quality of teaching and learning. • There were enough desks and chairs for each learner. • The classroom was neat.	• The teacher was well prepared for the lesson. • The introduction engaged learners and directed them towards the lesson objectives. • The teacher used short well planned summarised notes on the chalkboard. • Learners were listening attentively and they were able to participate in the class. • The teacher gave a class activity which was marked at the end of the lesson.	It was more of a teacher-cantred approach

The aim of the observation protocol was to find out how do secondary school teachers in Omaheke Region in Namibia approach their teaching. From the above reflections in tables 4.2 – 4.6, it showed that the sample of 5 teachers selected for observation, only one used mixed approach while the remaining four used a teacher-centred approach. The results are similar to those of the questionnaire in sub-section 4.4.1 where no teacher used learner-centred approach only but either teacher-centred approach only or mixed approach. Results from interviews also show that mixed approaches dominate.

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4.4.4: Comparison of learner-centred approach with teacher-centred approach

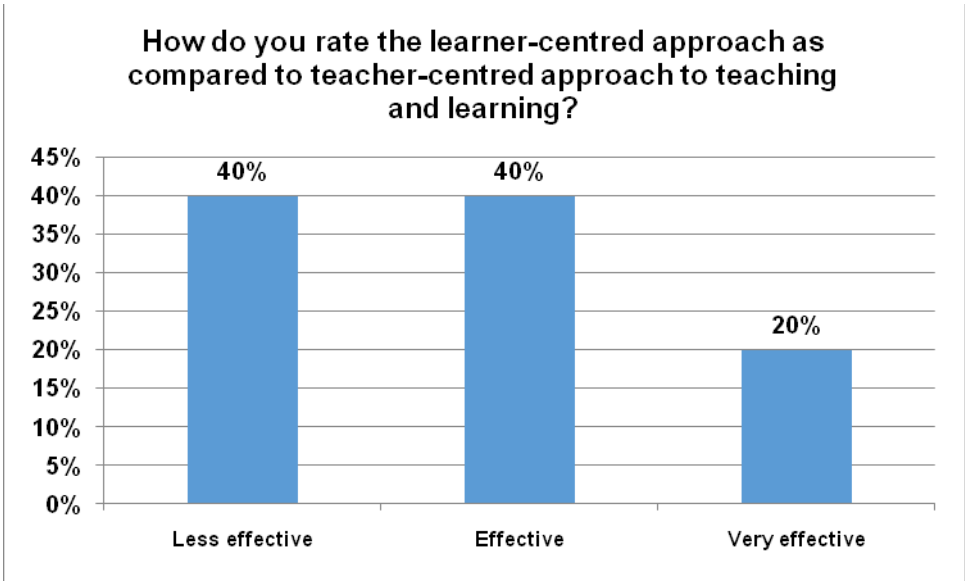

Figure 4.9: Comparison of learner-centred approach with teacher-centred approach

From Figure 4.9, 80% of the respondents views learner-centred approach to be either effective or less effective as compared to teacher-centred approach, with each having a 40% share of the sample under study. However, only 20% of the respondents suggested that learner-centred approach is very effective as compared to teacher-centred approach.

As a way of triangulating the quantitative results obtained by a structured questionnaire, the interviews carried out to obtain qualitative data had questions

that required the interviews to state advantages and disadvantages of the teacher-centred approach. With regard to the questions, teachers identified the advantage of time-saving as the teacher controls the direction of the lesson according to objectives and scheduled time for the lesson. The identified and mentioned dominant disadvantage includes less freedom for creative learning among learners and it makes learners passive.

4.5 Teachers' views and opinions on learner-centred approach

4.5.1: Learner-centred approach and performance

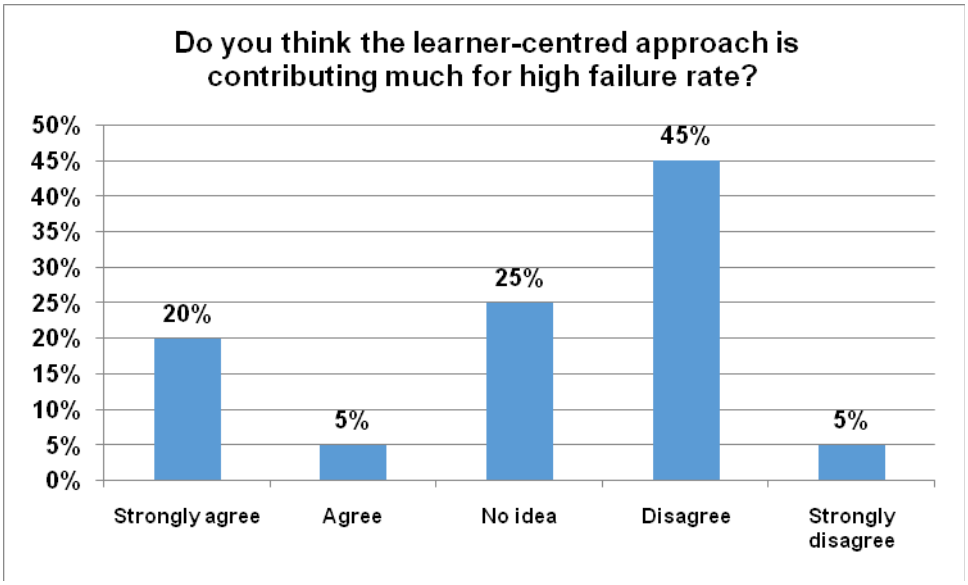

Figure 4.10: Learner-centred approach and performance

Results from Figure 4.10 shows that 45% of the sample under study disagrees with the decision that learner-centred approach is contributing much for high failure rate. The observation is then followed by 25% of the respondents who had no idea whether learner-centred approach is contributing for high failure rate, with the decisions of agree and strongly disagree having 5% each of the sample under study.

4.5.2: Learner-centred approach and time consumption

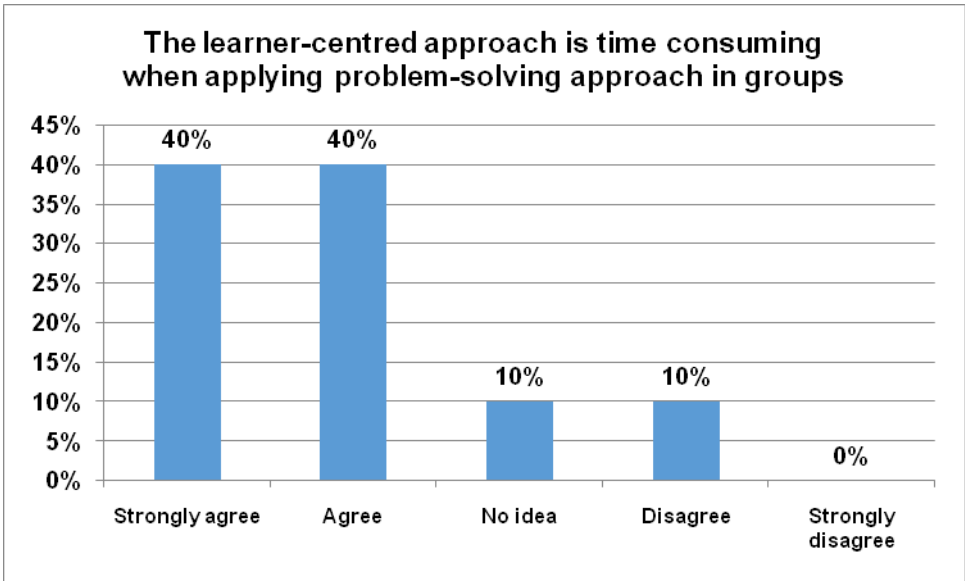

Figure 4.11: Learner-centred approach and time consumption

Figure 4.11 shows that the decisions that respondents agree and strongly agree that the learner-centred approach is time consuming when applying problem-solving approach had 40% each of the population, while those who had no idea and disagree are represented by 10% each of the respondents. However, from the sample under study, none of the respondents strongly disagree that the learner-centred approach is time consuming when applying problem-solving approach in groups.

4.5.3: Learner participation and effectiveness of learner-centred approach

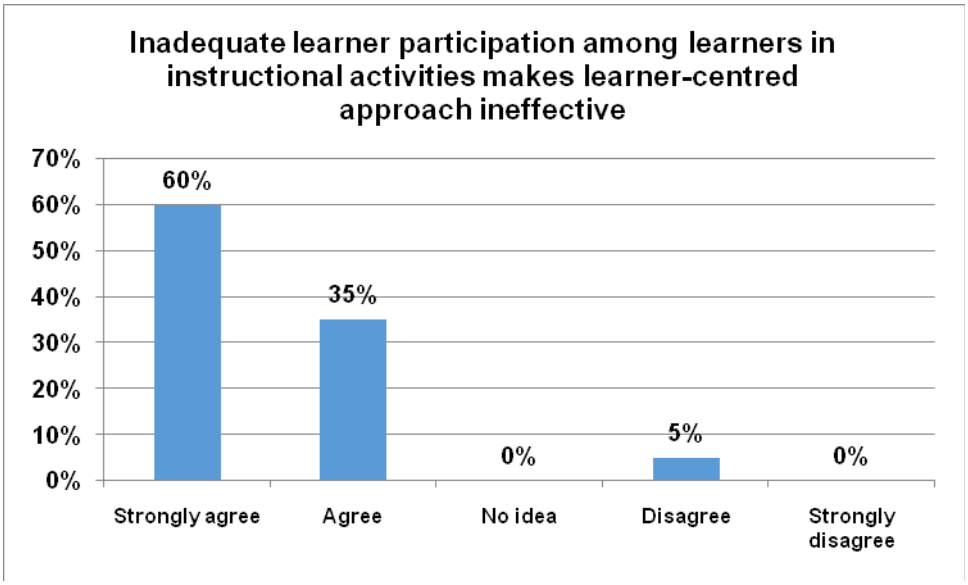

Figure 4.12: Learner participation and effectiveness of learner-centred approach

Results from Figure 4.12 indicate that the majority (60%) of the respondents strongly agree that inadequate learner participation among learners in instructional activities make learner-centred approach ineffective. The decision is then followed by 35% of the respondents who agree, while 5% disagree. However, none of the respondents neither strongly disagree nor have no idea as show in the diagram.

4.5.4: Instructional materials and effectiveness of learner-centred approach

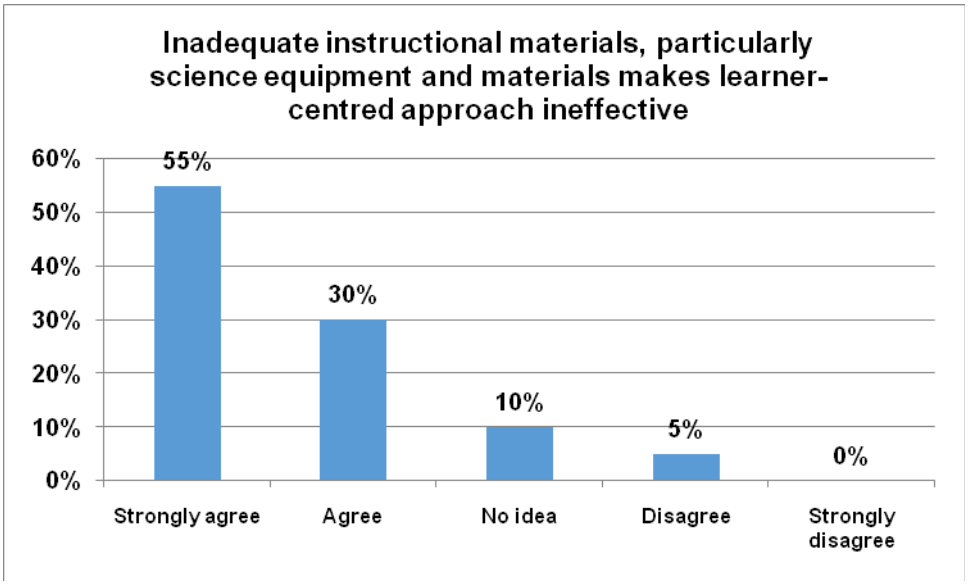

Figure 4.13: Instructional materials and effectiveness of learner-centred approach

From Figure 4.13, 55% of the respondents strongly agree that inadequate instructional materials, particularly science equipment and materials make learner-centered approach ineffective. Of the total sample, 30% of the respondents agree with the motion, while only 5% disagree. However, none of the respondents from the sample under study strongly disagree with the decision on offer.

4.5.5: Class sizes and effectiveness of learner-centred approach

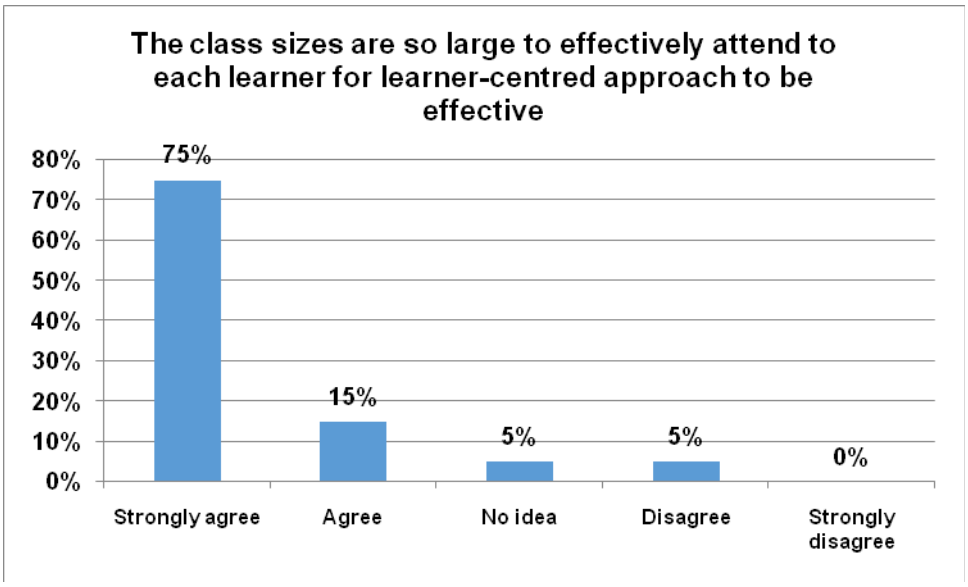

Figure 4.14: Class sizes and effectiveness of learner-centred approach

Results from Figure 4.14 indicates that three quarters (75%) of the sample under study strongly agree that class sizes are so large to effectively attend to each learner for learner-centred approach to be effective. The decision is then followed by 15% of the sample under study, who agrees with the motion, while the decisions no idea and disagree, had 5% each, of the given sample. However, none of the respondents from the sample understudy strongly disagreed with the decision.

The sizes of the classes are also reflected by results from the observation protocol Tables 4.2 – 4.6), which showed that of the five classes observed, the class sizes were from 35 to 40 learners. A study on “Class Size and Academic Achievement of Secondary School in Ekiti State, Nigeria” by Owoeye in 2010 recommended a class of less than 30 learners and this alone shows that class size in Namibia at secondary school is high for effective learning and teaching (Owoeye, 2011).

4.5 Summary

This chapter presented the results of the primary study done by means of questionnaires, in-depth interviews and lesson observations. The results presented in this chapter showed that respondents were mainly female teachers with most having a degree qualification and more than 10 years teaching experience. The secondary school grades taught by the sample of teachers interviewed and surveyed include Junior Secondary Certificate (Grades 8 – 10) and the average number of learners per class is generally high.

With regard to learner-centred approach, all teachers surveyed showed an understanding of what learner-centred approach is and most use a mixed approach to teaching that incorporates both learner-centred approach and teacher-centred approach. Despite understanding and accepting learner-centred approach to teaching and learning, the results show that the teachers interviewed and surveyed have view that learner-centred approach is effective but its effectiveness be reduced by poor participation of learners, large class sizes and inadequate instructional materials.

Considering the results presented in this chapter, the next chapter presents the discussion of results.

CHAPTER 5: DISCUSSION OF THE RESULTS

5.1 Introduction

The previous chapter presented results of the primary research study done through questionnaires, interviews and observations. Following the results of the previous chapter, this chapter discusses and explains the results, linking them to literature review where applicable. The discussions and explanations are in line with research objectives of the study.

5.2 Demographic profile of respondents

Although the demographic profile included a number of attributes, the most important demographic attributes are teachers' qualifications and experience. The results presented in Chapter 4 show that most teachers surveyed had a degree qualification and more than 10 years teaching experience. It is thought and believed that teacher qualification has an influence on the learner performance. This is supported by studies of the relationship of teacher qualification and students' performance in Nigeria by Adaramola and Obomanu (2011) and in Zambia by Maguswi (2011) that both found that lack of qualified teachers led to consistent poor performance of students in Science, Mathematics and Technology (SMT) subjects.

Contrary to this, a study by Buddin and Zamarro (2009) on Teacher Qualifications and Student Achievement in Urban Elementary Schools found that student achievement is unaffected by whether classroom teachers have advanced degrees but student achievement increases with teacher experience. Another study by Musau and Abere (2015) in Kenya confirmed that the teachers' professional qualifications did not have a significant influence on students' academic performance in SMT subjects but student performance may be improved by other factors such as in-service or refresher courses to acquire skills. From the above statements related to student performance, it can be argued that teacher qualification is complemented by experience hence learner-

centred approach as a new phenomenon of learning approach can improve performance of learners with more experience and more in-service or refresher courses to acquire skills.

5.3 The implementation of learner-centred approach

The implementation of the learner-centred approach to teaching and learning in Namibia was an educational transformation process realised soon after independence in 1990 that was meant to redress the anomaly of the old educational system for the common good of new independent Namibia. The results presented in Chapter 4 show that teachers understand the meaning of learner-centred approach as self-directed learning that puts emphasis on the part of the learner where the learning process must be active on the part of the learner not the teacher. This concurs with the literature on the characteristics of learner-centred approach where it concentrates on the needs of the learner (NIED, 1999; Al-Zu'be, 2013), with the teacher facilitating the learning process as a delegator (Banning, 2010) Al-Zu'be, 2013; Quinonez, 2014), and empowering the learner to learn theory and skills (Quinonez, 2014). The concept of the teacher being the facilitator of the learning process and as a delegator is associated with the facilitative style of teaching, which puts emphasis on the personal nature of teacher-learner interactions where the teacher guides the learners by asking questions, exploring options, suggesting alternatives, and encouraging them to develop criteria to make informed choices (Tubbs, 2014).

Furthermore, NIED (1999) in Namibia emphasised that teachers must put the needs of the learner at the centre of what they do in the classroom, rather than the learner being made to fit whatever needs the teacher has decided upon. Regarding teachers as facilitators of learning is what Banning (2010) related to the humanistic approach to learning that represents a shift from didactic exposition to one of empowering the learner to learn theory and skills. This is a paradigm shift that allow learners to participate effectively in science practical activities and this in turn help to improve learner performance in science related subjects.

With regard to learning theories, the results also showed that teachers viewed the learner-centred approach as an application of the constructivist theory by Piaget and Bruner (Culatta, 2015) where learning is an active, constructive process whereby learners are active information constructors who actively explore their environment by building on their existing cognitive structures or schemas followed by learning through a process of assimilation (Piaget, 2013). This is practically applicable to science subjects where learning experiences allow the individual to "go beyond the information given" (Piaget, 2013).

Results also showed that teachers understood learner-centred approach as a contrast to teacher-centred approach as they could describe teacher-centred approach as a situation whereby the teachers take the active centre-stage with too much exposition while learners are passive spectators. The understanding of the concepts behind learner-centred approach means that teachers can implement the approach without doubt on what it is and its characteristics. Therefore, teachers are encouraged to apply and consolidate the constructivist approach associated with socratic teaching style which is an active form of learning involving shared inquiry where the learner is active, and it involves questioning, critical thinking, and discriminating learning to trust one's own judgment and independent thinking (Austin, 2013; Quinonez, 2014).

5.4 Learning approaches used by secondary school teachers in Omaheke Region in Namibia

Results presented in chpater 4 show that of the sample of teachers surveyed and interviewed, 85% use both learner-centred and teacher-centred approaches in teaching science (mixed approaches). The blending of the learner-centred approach with the teacher-centred approach might be due to certain institutional barriers of schedule and time constraints that require teachers to finish the allocated material within a specified time limit, which entails the use of the traditional instructional methodology (teacher-centred approach) by teachers despite their qualifications, years of experience and understanding of the learner-centred approach (Tawalbeh & Al Asmari, 2015).

To add to this, Freire (2005) mentioned that professional science teachers need to use a variety of methods in their teaching and must have the ability to combine content and methodology to help in the classroom situation. A study by Kusi in 2017 on teaching Science in Ghana revealed that tutors and student teachers shared views that there is no single method used to teach Science and the use of teaching method is dependent on the topic (Kusi, 2017). This is likely to be with case with the respondents of the sample surveyed from the secondary school Science teachers in Omaheke Region in Namibia where they blend the learner-centred approach with the teacher-centred approach when teaching Science.

However, when comparing the effectiveness of the current learner-centred approach and the previous teacher-centred approach, teachers described the current learner-centred approach as being better although it could be seen that most teachers are blending the learner-centred approach with the teacher-centred approach, an indication of implementing the learner-centred approach but without forgetting the old teacher-centred approach. The blending of learner-centred approach and teacher-centred approach is supported by the fact that there is a balance of 40/40 on the rating of the effectiveness of the learner-centred approach with teacher-centred approach in teaching and learning Science. Varatta (2017) argues that a foundational shift from a traditional classroom through adoption of a learner-centred approach does not eliminate the teacher supports the blending of learner-centred approach and teacher-centred approach. The Concordia University (2018) reiterated this as it stated that it is best for teachers to use a combination of approaches to ensure that all student needs are met and a mix of the two approaches can create a well-balanced educational atmosphere. Therefore, a mixed approach to teaching and learning that blends both learner-centred approach and teach-centred approach can be regarded as a variation associated with flexibility as advocated by the Australian Government (2015) which states that flexible teaching approaches address the different learning styles of learners at the same time valuing the social interactions involved with learning in groups.

In conclusion, the results show adoption of learner-centred approach but without complete discarding of the old traditional teacher-centred approach. Two possible explanations can be attributed to this. The first can be associated with resistance to change while the second suggests that there are some elements of the teacher-centred approach that appear to be valued by teachers.

5.5 Teachers' views and opinions on the effectiveness of the learner-centred approach

The results presented in chapter 4 on teachers' views and opinions on the effectiveness of the learner-centred approach indicate that most teachers (50%) do not attribute high failure rate in Omaheke region to learner-centred approach but agreed that learner-centred is time consuming and its effectiveness is affected by poor learner participation, lack of instructional materials and large class sizes.

With respect to the class sizes, the survey showed that 40% of the respondents have average number of learners of 36 to 40 learners that is so high. According to Niikondo (2008), the ratio of teachers to learners in Namibia is too wide and more than 40 learners in a class to a teacher is very absurd as learners may not get enough attention on the subject being taught. The impact of lack of instructional materials is mentioned by O'Neill & McMahon (2012), as they state that "learner-centred learning is individual-centred and requires resources for its implementation". With regard to resources, De la Sablonnie`re, et al. (2009) suggests that if the government choose to commit to a student-centred approach rather than a teacher/expert approach, more resources need to be provided to the minority less privileged schools to achieve the full potential of the student-centred approach in achieving the desired results.

The results suggest that teachers accept the learner-centred approach and have the belief that it works. With regard to the performance of learners, teachers believe that learner-centred approach can be effective in improving performance of learners, but there are challenges that are reducing the

effectiveness of the learner-centred approach. The challenges highlighted are primarily the high teacher: learner ratio, lack of instructional material and lack of motivation for participation on the part of learners.

As for high teacher: learner ratio, lesson observations revealed a high teacher: learner ratio of 35 to 40 learners per teacher in a class. Large class sizes have been found to have an effect on academic performance of learners, hence the Oyo state in Nigeria made an educational policy that the maximum number of students in a class should be 20 (Owoeye, 2011). To add to this, Ayeni and Olowe (2016) reiterated that large class size makes teaching and learning difficult and it does not promote seriousness among students.

Following the phenomenon of the negative impact of large class size in education, a number of class size reduction projects have been carried out in countries like USA, UK, China and the Netherlands supporting a maximum 30 to a class (Yelkpieri, et al., 2012). In a study on “Class Size and Academic Achievement of Secondary School in Ekiti State, Nigeria”, Owoeye (2011) also recommended that educational policy makers should formulate policies that will ensure that the number of students in a class should not exceed 30 students. From this point of view, it can also suggests that high failure rate of learners in Omaheke Region can also be attributed to large class size apart from failure to fully adopt the learner-centred approach.

5.6 Summary

This chapter discussed and explained the results of the study. The discussions have been presented in line with research objectives of the study. The discussions linked the results to literature review where applicable. From the discussions, it can be summed up that learner-centred approach has been adopted, implemented and is understood by teachers. The learner-centred approach adopted is a form educational reform and transformation in Namibia to redress the previous inconsistent educational system of the apartheid era before independence. Despite the perceived advantages and anticipated outcomes of the learner-centred in terms of learner performance, learner

performance is still low and teachers do not attribute this to the current learner-centred approach, but to the challenges that are reducing the effectiveness of the of the learner-centred approach. Following the discussions presented in this chapter, the next chapter concludes the study and give recommendations for future action.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The previous chapter discussed the results of the study done to investigate teachers' perceptions on learner-centred approach in selected secondary schools in Omaheke Region in Namibia. Following the discussions, this chapter, concludes the study and give recommendations for future action. The conclusions are presented in line with research objectives to identify how the study has addressed the research objectives. Finally, the chapter ends with recommendations as actions that help to bridge the identified gaps.

6.2 Conclusions of the study

Considering the findings presented in chapter 4 and the discussions made in chapter 5, this section gives objective-based conclusions of the study.

Objective 1: *To explore secondary school teachers' views about the implementation of learner-centred approach in Omaheke Region in Namibia.*

From the above objective, it can be concluded that teachers view the learner-centred approach as a good approach to contemporary teaching and learning but face challenges and constraints that need to be addressed for yielding the desired results of improved performance of learners.

Objective 2: *To identify teaching and learning approaches used by secondary school teachers in Omaheke Region in Namibia.*

Considering the objective and the results obtained from the primary study, it can be concluded that secondary school Science teachers in Omaheke Region in Namibia use a mixed approach that incorporates both learner-centred approach and teacher-centred approach when teaching Science. The blending of the two approaches is attributed to the identified and weighed advantages of the two

approaches where some of the disadvantages of the most favoured learner-centred approach are compensated by the advantages of the teacher-centred approach that cannot be completely discarded.

Objective 3: *To determine reasons for the teachers' choices on teaching approaches in Omaheke Region in Namibia.*

With respect to the teachers' choices on teaching approaches in Omaheke Region in Namibia, it can be concluded that teachers apply a situational approach with regard to objectives of the topic, outcome competences and the demands of the Science activity.

6.3 Recommendations

Considering that the learner-centred approach is supported by teachers and its perceived effectiveness is reduced by challenges and constraints, the Ministry of Education in Namibia and other education stakeholders including the education policy makers are recommended to look into the following recommendations for actions that will help to close the gaps identified.

- The Ministry of Education through its Regional Education Directorates must regularly run in-service workshops for providing professional development for all teaching staff with regard to learner-centred approach to identify and remedy challenges faced by teachers. Such workshops bring together teachers from different schools to exchange ideas and experiences about applying learner-centred approach.
- The question of time consumption for the learner-centred approach, the designing of durations and time allocation for specific activities inside and outside the classroom needs to be reconsidered and adjustments need to be made to ensure the activities to be completed effectively.
- The teachers to learners' ratio in Namibia must be reduced to manageable ratio of at least less than 30 learners in a class to a teacher for the teacher to give enough attention to each learner thereby increasing the effectiveness of the learner-centred approach.

- Resources needed for effective implementation of learner-centred approach must be identified and distributed in schools to achieve the desired results.

6.4 Suggestions for further research

A national study of this nature is recommended to cover all educational regions in Namibia to find out teachers' perceptions on learner-centred approach as the results and conclusions cannot be fully generalised for the whole country with 14 Regions. Furthermore, further studies can be carried out to identify learners' perceptions towards learner-centred approach and possible challenges that may hinder application.

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APPENDICES

Appendix A: Ethical Clearance Certificate

UNISA university of south africa

UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2017/09/13

Ref: **2017/09/13/50586866/40/MC**
Name: Ms NL Shatumbu
Student: 50586866

Dear Ms Shatumbu

Decision: Ethics Approval from 2017/09/13 to 2020/09/13

Researcher:

Name: Ms Shatumbu
Email: loide.shatumbu@gmail.com
Telephone: 081 4068124

Supervisor:
Name: Dr HO Mokiwa
Email: mokiwho@unisa.ac.za
Telephone: +27 (74)5897438

Title of research:

Teachers' perceptions on learner-centred approach: A case of selected secondary schools in Omaheke Region in Namibia

Qualification: M Ed in Science and Technology Education

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2017/08/16 to 2020/08/16.

*The **low risk** application was reviewed by the Ethics Review Committee on 2017/09/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date 2020/09/13. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2017/09/13/50586866/40/MC** *should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,

Dr M Claassens
CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za

Prof V McKay
EXECUTIVE DEAN

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Appendix B: Request letter to Omaheke Education Region Directorate for permission to conduct the research

Ndapanda Loide Shatumbu
PO BOX 17
Gobabis
Namibia

15 January 2017

The Education Director
Omaheke Education Region Directorate
P O Box 1293
Gobabis
Namibia 9000

Dear Sir/Madam,

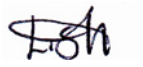
A Request for permission to conduct a research in Omaheke Education Region

I am a student at the University of South Africa (UNISA) pursuing a Master's Degree Education. The title of my study is: Teachers' perceptions on learner-centred approach: A case of selected secondary schools in Omaheke Region in Namibia. This is part of the requirements of my degree programme.

I am therefore asking permission to conduct the research in the 5 selected schools in Omaheke Education Region. The permission will enable me to commence with data collection.

Thank you very much and I am looking forward to hear from you soon.

Faithfull yours



Ndapanda Loide Shatumbu

Appendix C: Approval letter from Omaheke Education Region Directorate

OMAHEKE REGIONAL COUNCIL
OMAHEKE DIRECTORATE OF EDUCATION

Tel: 062-577600
Fax: 062-562888

Private Bag 2004
Gobabis
Namibia

File no: 2/7/7

Ndapanda Loide Shatumbu
PO BOX 17
Gobabis
Namibia

05 June 2018

Dear Ms Loide Shatumbu

Re: Permission granted to conduct a research in Omaheke Region schools

This serves as a response to your request to conduct a research in Omaheke Education Region secondary schools on the "Teachers' perceptions on learner-centred approach on selected secondary schools in Omaheke Region in Namibia" as part of the requirements of your degree programme.

We hereby grant you the permission to conduct the research. You are reminded that your research must be for academic purposes only. We also advise you to attach this letter to your application for permission from respective school principals where you are going to conduct the research.

For any queries, feel free to contact the Omaheke Education Regional Office.

Thank you.

Yours Faithfully

DIRECTORATE OF EDUCATION
OMAHEKE REGION
2018 -05- 05
SALARIES & ALLOWANCES
PRIVATE BAG 2004, GOBABIS
NAMIBIA

Mr. Pecka Semba
Director of Education, Arts and Culture

ALL THE CORRESPONDENCE SHOULD BE ADDRESSED TO THE CHIEF REGIONAL OFFICER: OMAHEKE.

Appendix D: Permission letter to Principals to conduct the research at the school

Ndapanda Loide Shatumbu
PO BOX 17
Gobabis
Namibia

15 January 2017

The Principal
Winnie Du Plessis Secondary School
P O box 17
Gobabis
Namibia 9000

Dear Sir/Madam,

A Request for permission to conduct a research

I am a student at the University of South Africa (UNISA) pursuing a Master's Degree Education. The title of my study is: Teachers' perceptions on learner-centred approach: A case of selected secondary schools in Omaheke Region in Namibia. This is part of the requirements of my degree programme.

I am therefore asking permission to conduct the research at your school on Teachers' perceptions on learner-centred approach. The permission will enable me to commence with data collection.

Thank you very much and I am looking forward to hear from you soon.

Faithfull yours

Ndapanda Loide Shatumbu

Appendix E: Approval letter from Principal

WENNIE DU PLESSIS SECONDARY SCHOOL
Tel: (062) 562436 Fax: (062) 563114 P.O. Box 17, Gobabis, NAMIBIA
Email: wenniedup@iway.na

Ndapanda Loide Shatumbu
PO BOX 17
Gobabis
Namibia

16 June 2018

Dear Ms Loide Shatumbu

RE: PERMISSION TO CONDUCT A RESEARCH

This serves as a response to your request to conduct a research at our school on the "Teachers' perceptions on learner-centred approach on selected secondary schools in Omaheke Region in Namibia" as part of the requirements of your degree programme.

The permission is hereby granted on condition that this study is purely for academic purposes. We advise you to approach the Science Head of Department before collecting the data for your academic research.

We wish you the best of luck on your research study. Thank you.

Yours Faithfully

Mr. W. A. Silver
Principal

WENNIE DU PLESSIS S.S.
PO Box 17
Gobabis
OMAHEKE REGION

Appendix F: Consent letter to participants

Dear Sir/ Madam,

I am a student at the University of South Africa (UNISA) pursuing a Master's Degree Education at the University of South Africa. I am conducting research on the topic titled: Teachers' perceptions on learner-centred approach: A case of selected secondary schools in Omaheke Region in Namibia. This is part of the requirements of my degree programme.

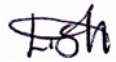
I am therefore, asking you to take a few minutes of your time to complete the attached questionnaire to show your views, opinions and perceptions on learner-centred approach. Participation is voluntary. You are free to withdraw from participation should deem it right for you. You are assured that all your answers will be treated in a confidential manner and will not in any way be identified with you as an individual.

This research will be conducted under the supervision of Dr. Mokiwa at UNISA. Any questions regarding this research can be directed to me or my supervisor through the following contacts:

Dr. Mokiwa HO (Supervisor)
Department of Science & Technology
UNISA
Tel: 012-429 6562
Email: mokiwho@unisa.ac.za

Ndapanda Loide Shatumbu
(Researcher/Student)
PO BOX 17
Gobabis, Namibia
Tel: 0814068124
Email: loide.shatumbu@gmail.com

Yours truly,



Ndapanda Loide Shatumbu

Appendix G: Consent form

Project title:

“Teachers’ perceptions on learner-centred approach: A case of selected secondary schools in Omaheke Region in Namibia”.

I have read the information regarding this research. I have been informed about all aspects of the study and all questions I have asked have been answered to my satisfaction.

I agree to participate in this research project, releasing that I can withdraw at any time.

I also agree that the research data gathered for this study may be published provided that my name, my school and my local education region are not identifiable.

Participant: ……..... Date: ……

Ndapanda Loide Shatumbu …….…… Date: ……

Appendix H: Questionnaire for teachers

VIEWS ON LEARNER-CENTRED APPROACH

This is an anonymous questionnaire. Do not write your name or any comments that would identify you. By completing the questionnaire, you are consenting to take part in this research project.

Purpose: This questionnaire seeks your views and ideas about learner-centered approach in secondary schools in Namibia. The information will be aggregated and summarised for inclusion in research reports, hence used for academic purpose only. No person or school will be identified in any report.

General directions:

- Respond to all the questions.
- You can use all the space provided and the backs of the pages to answer a question.
- Some questions have more than one part. Please make sure you write answers for each part.
- This is not a test and will not be graded. There is no “right” or “wrong” answer to the following questions. I am only interested in your views and ideas about the following questions.

Section A: Biographic information

For office use:

- What is your gender? _____
- What is your age? _____
- What is your teaching experience in years? _____
- What is your highest qualification? _____
- What is your teaching workload per week? _____
- What is your average number of learners in class? _____
- The level being taught _____

Section B: Approaches to Teaching and Learning

1. State the approach or approaches you use to teach.

Teacher-centred approach	
Both learner-centred and teacher-centred approaches (Mixed)	
Any other (Specify)	

Specify any other method(s) ……..……

……

2. Explain what you understand by Teacher-centred approach

   ……

   …

3. May you give reasons for your choice in question 7 above

……

……

……

……

……

4. The NIED guidelines for teaching the new secondary school syllabi put emphasis on learner-centred approach. How do you rate the learner-centred approach as compared to teacher-centred approach to teaching and learning?

Less effective	
Effective	
Very effective	

5. With regard to the theories of learning, the learner-centred approach is associated with:

Behaviourist theory	
Constructivist theory	
Transformative theory	
All of the above	
None of the above	
No idea	

6. How do you compare the teaching approaches of the current curriculum at secondary level with the teaching approaches of the previous curriculum before independence?

The same	
Current is better	
Previous is better	
No comment	

7. Can you give reasons for your opinion in question 9 above?
   - ……
   - ……
   - ……
   - ……
   - ……

8. The performance of learners in secondary schools is supposed to show remarkable increase with learner-centred approach, but this is not the case. Do you think the learner-centred approach is contributing much for high failure rate?

Strongly agree	
Agree	
No idea	
Disagree	
Strongly disagree	

9. The learner-centred approach is time consuming when applying problem-solving approach in groups

Strongly agree	
Agree	
No idea	
Disagree	
Strongly disagree	

10. Inadequate learner participation among learners in instructional activities makes learner-centred approach ineffective

Strongly agree	
Agree	
No idea	
Disagree	
Strongly disagree	

11. Inadequate instructional materials, particularly science equipment and materials makes learner-centred approach ineffective

Strongly agree	
Agree	
No idea	
Disagree	
Strongly disagree	

12. The class sizes are so large to effectively attend to each learner for learner-centred approach to be effective

Strongly agree	
Agree	
No idea	
Disagree	
Strongly disagree	

Thank you for participation in this study.

Appendix I: Interview protocol

Teachers' interview schedule

Interview questions:

The researcher in oral form presented the following questions to the participants. Responses were audio recorded.

1. In your teaching, how do you teach Science?
2. What guides your choice of a teaching method?
3. How does Teacher-centred approachlook like in class?
4. What aspects of your lesson demonstrated the presence of Teacher-centred approach?
5. What are the advantages of Teacher-centred approach?
6. What are the disadvantages of Teacher-centred approach?

Appendix J: Interview with teacher T1

I = interviewer
T = teacher

01 I: In your teaching, how do you teach science?
T: I use psychomotor skill methods since science is a practical subject

02 I: What guides your choice of a teaching method?
T: I am guided by the curriculum that puts emphasis on use of practical activities.

03 I: How does teacher-centred approach look like in class?
T: The teacher is placed at the centre of learning while learners are passive spectators.

04 I: What aspects of your lesson demonstrated the presence of Teacher-centred approach?
T: This happens when demonstrating a practical activity to learners before they do it themselves.

05 I: *What are the advantages of teacher-centred approach?*
T: It provides self-regulatory learning and improves psychomotor skills, decision-making skills and referent skills.

06 I: What are the disadvantages of teacher-centred approach?
T: It negates the advantages listed in 5 above

Appendix K: Interview with teacher T2

I = interviewer
T = teacher

01 I: In your teaching, how do you teach science?
T: My teaching is mostly learner-centred approach when doing investigations and discovering in the lab.

02 I: What guides your choice of a teaching method?
T: I am guided by the topic and the type of learners.

03 I: How does teacher-centred approach look like in class?
T: The teacher-centred approach is an autocratic way of teaching.

04 I: What aspects of your lesson demonstrated the presence of Teacher-centred approach?
T: Giving instructions to the learners.

05 I: What are the advantages of teacher-centred approach?
T: The teacher controls the direction to achieve the lesson objective.

06 I: What are the disadvantages of teacher-centred approach?
T: Learners have less freedom to express themselves as the teacher dominates..

Appendix L: Interview with teacher T3

I = interviewer
T = teacher

01 I: In your teaching, how do you teach science?
T: I explain objectives, and teach and give activities according to learning objectives.

02 I: What guides your choice of a teaching method?
T: I am guided by learning objectives.

03 I: *How does teacher-centred approach look like in class?*
T: When the teacher does the talking while learners are listening.

04 I: What aspects of your lesson demonstrated the presence of teacher-centred approach?
T: When the teacher demonstrates a practical activity while learners are listening.

05 I: What are the advantages of teacher-centred approach?
T: It is time saving.

06 I: What are the disadvantages of teacher-centred approach?
T: Learners are passive and mastering content by learners is Ineffective.

Appendix M: Interview with teacher T4

I = interviewer
T = teacher

01 I: In your teaching, how do you teach science?
T: I introduce the topic as per objectives and ask learners at the end of the lesson to evaluate understanding.

02 I: What guides your choice of a teaching method?
T: The basic competences of learners.

03 I: How does teacher-centred approach look like in class?
T: When the teacher asks some questions and learners respond to questions.

04 I: What aspects of your lesson demonstrated the presence of teacher-centred approach?
T: When the teacher give a lot of explanations and do much of the work rather than learners.

05 I: What are the advantages of teacher-centred approach?
T: Covers the topic within a short period (It is time saving).

06 I: What are the disadvantages of teacher-centred approach?
T: Learners tend to easily forget since they are not doing much of discovering.

.

Appendix N: Interview with teacher T5

I = interviewer
T = teacher

01 I: In your teaching, how do you teach science?
T: I explain the objectives and relate the objectives to real life activities. I also pose questions to introduce a topic and then carry out activities to enhance learning.

02 I: What guides your choice of a teaching method?
T: The objectives to be achieved and competences to be mastered.

03 I: How does teacher-centred approach look like in class?
T: Consists of teacher-chalk-talk while learners are passive.

04 I: What aspects of your lesson demonstrated the presence of teacher-centred approach?
T: Too much exposition rather than learners discovering.

05 I: What are the advantages of teacher-centred approach?
T: Covers the content within the allocated time.

06 I: What are the disadvantages of teacher-centred approach?
T: No mastery of the content as learners do not interact to discuss and share ideas. Learners tend to be passive.

Appendix O: Observation Protocol

Date of observation: _____

Start time: _____

End time: _____

For office use:

Section A: Biographic information

- What is your gender? _____
- What is your age? _____
- What is your teaching experience in years? _____
- What is your highest qualification? _____
- What is your teaching workload per week? _____
- What is your average number of learners in your Physical Sciences class? _____

Time	Descriptive notes	Reflective notes	Teaching method(s)

Appendix P: Certificate of Editing

BUSINESS AND EDUCATION DEVELOPMENT CONSULTANCY CC
(Building the economy through Business Consultancy, Education and Training)

Number 3Sauerbruch Strasse
Windhoek West
Windhoek
email: bedccc@gmail.com

P. O. Box 25246
Windhoek
Phone: 061 400735
0812082908

06 January 2019

CERTIFICATE OF EDITING

This document certifies that the Research Dissertation on "Teachers' perceptions on learner-centred approach: a case of selected secondary schools in Namibia" authored by Loide Ndapanda Shatumbu was edited for English language, grammar, punctuation, spelling and general formatting style by BUSINESS AND EDUCATION DEVELOPMENT CONSULTANCY.

T. Chikarango
(Chief Editor)

Reg. No.cc/2006/1880